Vishwaniketan's
Institute of Management Entrepreneurship and Engineering Technology
Survey No-52 Off Mumbai-Pune Expressway Kumbhivali,
Tal- Khalapur, Maharashtra 410203.
Phone: (02192) 274206/274207/274208/274210

LIST OFPROGRAM IN WHICH CBCS /ELECTIVE COURSE SYSTEM IMPLEMENTED IN LASTCOMPLETED ACEDAMIC YEAR 2020-2021

SR . NO	CBCS/ ELECTIVE COURSE	PROGRAM CODE	PROGRAM NAME	COURSE CODE	COURSE NAME	YEAR
1	REV- 2019 'C' Scheme CBCS	346719110	Civil Engineering	CEC301	Engineering Mathematics-III	2020-21
2	REV- 2019 'C' Scheme CBCS	346719110	Civil Engineering	CEC302	Mechanics of Solids	2020-21
3	REV- 2019 'C' Scheme CBCS	346719110	Civil Engineering	CEC303	Engineering Geology	2020-21
4	REV- 2019 'C' Scheme CBCS	346719110	Civil Engineering	CEC304	Architectural Planning & Design of Buildings	2020-21
5	REV- 2019 'C' Scheme CBCS	346719110	Civil Engineering	CEC305	Fluid Mechanics- I	2020-21
6	REV- 2019 'C' Scheme CBCS	346719110	Civil Engineering	CEL301	Mechanics of Solids	2020-21
7	REV- 2019 'C' Scheme CBCS	346719110	Civil Engineering	CEL302	Engineering Geology	2020-21
8	REV- 2019 'C' Scheme CBCS	346719110	Civil Engineering	CEL303	Architectural Planning & Design of Buildings	2020-21
9	REV- 2019 'C' Scheme CBCS	346719110	Civil Engineering	CEL304	Fluid Mechanics- I	2020-21
10	REV- 2019 'C' Scheme CBCS	346719110	Civil Engineering	CEL305	Skill Based Lab Course-I	2020-21
11	REV- 2019 'C' Scheme CBCS	346719110	Civil Engineering	CEM301	Mini Project – 1 A	2020-21
12	REV- 2019 'C' Scheme CBCS	346719110	Civil Engineering	CEC401	Engineering Mathematics - IV	2020-21
13	REV- 2019 'C' Scheme CBCS	346719110	Civil Engineering	CEC402	Structural Analysis	2020-21
14	REV- 2019 'C' Scheme CBCS	346719110	Civil Engineering	CEC403	Surveying	2020-21
15	REV- 2019 'C' Scheme CBCS	346719110	Civil Engineering	CEC404	Building Materials &Concrete Technology	2020-21
16	REV- 2019 'C' Scheme CBCS	346719110	Civil Engineering	CEC405	Fluid Mechanics-II	2020-21
17	REV- 2019 'C' Scheme CBCS	346719110	Civil Engineering	CEL 401	Structural Analysis	2020-21
18	REV- 2019 'C' Scheme CBCS	346719110	Civil Engineering	CEL 402	Surveying	2020-21
19	REV- 2019 'C' Scheme CBCS	346719110	Civil Engineering	CEL 403	Building Materials &Concrete Technology	2020-21

TRUE COPY

Principal
Vishwaniketan's (I MEET)

Vishwaniketan I MEET E.N. 346

20	REV- 2019 'C' Scheme CBCS	346719110	Civil Engineering	CEL 404	Fluid Mechanics-II	2020-21
21	REV- 2019 'C' Scheme CBCS	346719110	Civil Engineering	CEL 405	Skill Based lab Course-II	2020-21
22	REV- 2019 'C' Scheme CBCS	346719110	Civil Engineering	CEM401	Mini Project – 1 B	2020-21
23	Rev- 2016 CBCGS	346719110	Civil Engineering	CE-C501	Structural Analysis – II	2020-21
24	Rev- 2016 CBCGS	346719110	Civil Engineering	CE-C502	Geotechnical Engineering –I	2020-21
25	Rev- 2016 CBCGS	346719110	Civil Engineering	CE-C504	Applied Hydraulics	2020-21
26	Rev- 2016 CBCGS	346719110	Civil Engineering	CE-C505	Environmental Engineering -I	2020-21
27	Rev- 2016 CBCGS	346719110	Civil Engineering	CE-C506	Transportation Engineering – I	2020-21
28	Rev- 2016 ELECTIVE	346719110	Civil Engineering	CEDLO506X	Department Level	2020-21
29	Rev- 2016 ELECTIVE	346719110	Civil Engineering	CE-DLO5061	Advanced Surveying	2020-21
30	Rev- 2016 ELECTIVE	346719110	Civil Engineering	CE-DLO5062	Advanced Concrete Technology	2020-21
31	Rev- 2016 ELECTIVE	346719110	Civil Engineering	CE-DLO5063	Building Services and Repairs	2020-21
32	Rev- 2016 ELECTIVE	346719110	Civil Engineering	CE-DLO5064	Advanced Structural Mechanics	2020-21
33	Rev- 2016 CBCGS	346719110	Civil Engineering	CE-C507	Business andCommunication Ethics	2020-21
34	Rev- 2016 CBCGS	346719110	Civil Engineering	CE-C601	Geotechnical Engineering. – II 3 2 -- 3 1 -- 4	2020-21
35	Rev- 2016 CBCGS	346719110	Civil Engineering	CE-C602	Design and Drawing of Steel Structures	2020-21
36	Rev- 2016 CBCGS	346719110	Civil Engineering	CE-C603	Transportation Engineering. – II	2020-21
37	Rev- 2016 CBCGS	346719110	Civil Engineering	CE-C604	Environmental Engineering. – II	2020-21
38	Rev- 2016 CBCGS	346719110	Civil Engineering	CE-C605	Water Resource Engineering –I	2020-21
39	Rev- 2016 ELECTIVE	346719110	Civil Engineering	CEDLO606X	Department Level Optional Course – II	2020-21
40	Rev- 2016 ELECTIVE	346719110	Civil Engineering	CE-DLO6061	Advanced Construction Equipment	2020-21
41	Rev- 2016 ELECTIVE	346719110	Civil Engineering	CE-DLO6062	Traffic Engineering and Management	2020-21
42	Rev- 2016 ELECTIVE	346719110	Civil Engineering	CE-DLO6063	Ground Improvement Techniques	2020-21
43	Rev- 2016 ELECTIVE	346719110	Civil Engineering	CE-DLO6064	Advanced Structural Analysis	2020-21
44	Rev- 2016 CBCGS	346719110	Civil Engineering	CE-C607	Software Applications in Civil Engineering	2020-21
45	Rev- 2016 CBCGS	346719110	Civil Engineering	CE-C701	Quantity Survey Estimation and Valuation	2020-21
46	Rev- 2016 CBCGS	346719110	Civil Engineering	CE-C702	Theory of Prestressed Concrete Structures	2020-21
47	Rev- 2016 CBCGS	346719110	Civil Engineering	CE-C703	Water Resource Engineering -II	2020-21

Principal
Vishwaniketan's (MEET)

48	Rev- 2016 CBCGS	346719110	Civil Engineering	CE-C705	Project – Part-I	2020-21
49	Rev- 2016 ELECTIVE	346719110	Civil Engineering	CEDLO704X	Department Level Optional Course-III	2020-21
50	Rev- 2016 ELECTIVE	346719110	Civil Engineering	CE-DLO7041	Pre-stressed Concrete	2020-21
51	Rev- 2016 ELECTIVE	346719110	Civil Engineering	CE-DLO7042	Solid Waste management	2020-21
52	Rev- 2016 ELECTIVE	346719110	Civil Engineering	CE-DLO7043	Pavement Sub-grade andMaterials	2020-21
53	Rev- 2016 ELECTIVE	346719110	Civil Engineering	CE-DLO7044	Structural Dynamics	2020-21
54	Rev- 2016 ELECTIVE	346719110	Civil Engineering	CE-DLO7045	Application of GIS and Remote Sensing	2020-21
55	Rev- 2016 ELECTIVE	346719110	Civil Engineering	CE-DLO7046	Foundation Analysis and Design	2020-21
56	Rev- 2016 ELECTIVE	346719110	Civil Engineering	ILO7011	Product Lifecycle Management	2020-21
57	Rev- 2016 ELECTIVE	346719110	Civil Engineering	ILO7012	Reliability Engineering	2020-21
58	Rev- 2016 ELECTIVE	346719110	Civil Engineering	ILO7013	Management Information Systems	2020-21
59	Rev- 2016 ELECTIVE	346719110	Civil Engineering	ILO7014	Design of Experiments	2020-21
60	Rev- 2016 ELECTIVE	346719110	Civil Engineering	ILO7015	Operations Research	2020-21
61	Rev- 2016 ELECTIVE	346719110	Civil Engineering	ILO7016	Cyber Security and Laws	2020-21
62	Rev- 2016 ELECTIVE	346719110	Civil Engineering	ILO7017	Disaster Management and Mitigation Measures	2020-21
63	Rev- 2016 ELECTIVE	346719110	Civil Engineering	ILO7018	Energy Audit and Management	2020-21
64	Rev- 2016 ELECTIVE	346719110	Civil Engineering	ILO7019	Development Engineering	2020-21
65	Rev- 2016 ELECTIVE	346719110	Civil Engineering	CE-C801	Design and Drawing of Reinforced Concrete Structures	2020-21
66	Rev- 2016 ELECTIVE	346719110	Civil Engineering	CE-C802	Construction Management	2020-21
67	Rev- 2016 ELECTIVE	346719110	Civil Engineering	CEDLO803X	Department Level Optional	2020-21
68	Rev- 2016 ELECTIVE	346719110	Civil Engineering	CE-DLO8031	Advanced Design of Steel Structures	2020-21
69	Rev- 2016 ELECTIVE	346719110	Civil Engineering	CE-DLO8032	Industrial Waste Treatment	2020-21
70	Rev- 2016 ELECTIVE	346719110	Civil Engineering	CE-DLO8033	Pavement Design and Construction	2020-21
71	Rev- 2016 ELECTIVE	346719110	Civil Engineering	CE-DLO8034	Bridge Engineering and Design	2020-21
72	Rev- 2016 ELECTIVE	346719110	Civil Engineering	CE-DLO8035	Appraisal and Implementation of Infrastructure Projects	2020-21
73	Rev- 2016 ELECTIVE	346719110	Civil Engineering	CE-DLO8036	Soil Dynamics	2020-21
74	Rev- 2016 ELECTIVE	346719110	Civil Engineering	CE-DLO8037	Applied Hydrology and Flood Control	2020-21
75	Rev- 2016 ELECTIVE	346719110	Civil Engineering	ILO802X	Institute Level Optional	2020-21
76	Rev- 2016 ELECTIVE	346719110	Civil Engineering	ILO8021	Project Management	2020-21

Principal
Vishwaniketan's (i MEET)

77	Rev- 2016 ELECTIVE	346719110	Civil Engineering	ILO8022	Finance Management	2020-21
78	Rev- 2016 ELECTIVE	346719110	Civil Engineering	ILO8023	Entrepreneurship Development and Management	2020-21
79	Rev- 2016 ELECTIVE	346719110	Civil Engineering	ILO8024	Human Resources Management	2020-21
80	Rev- 2016 ELECTIVE	346719110	Civil Engineering	ILO8025	Professional Ethics and Corporate Social Responsibility (CSR)	2020-21
81	Rev- 2016 ELECTIVE	346719110	Civil Engineering	ILO8026	Research Methodology	2020-21
82	Rev- 2016 ELECTIVE	346719110	Civil Engineering	ILO8027	Intellectual Property Rights and Patenting	2020-21
83	Rev- 2016 ELECTIVE	346719110	Civil Engineering	ILO8028	Digital Business Management	2020-21
84	Rev- 2016 ELECTIVE	346719110	Civil Engineering	ILO8029	Environment Management	2020-21
85	Rev- 2016 CBCGS	346719110	Civil Engineering	CE-P804	Project – Part II	2020-21
86	REV- 2019 'C' Scheme CBCS	346724510	Computer Engineerin	CSC301	Engineering Mathematics┐III	2020-21
87	REV- 2019 'C' Scheme CBCS	346724510	Computer Engineerin	CSC302	Discrete Structures and Graph Theory	2020-21
88	REV- 2019 'C' Scheme CBCS	346724510	Computer Engineerin	CSC303	Data Structure	2020-21
89	REV- 2019 'C' Scheme CBCS	346724510	Computer Engineerin	CSC304	Digital Logic & Computer Architecture	2020-21
90	REV- 2019 'C' Scheme CBCS	346724510	Computer Engineerin	CSC305	Computer Graphics	2020-21
91	REV- 2019 'C' Scheme CBCS	346724510	Computer Engineerin	CSL301	Data Structure Lab	2020-21
92	REV- 2019 'C' Scheme CBCS	346724510	Computer Engineerin	CSL302	Digital Logic & Computer Architecture Lab	2020-21
93	REV- 2019 'C' Scheme CBCS	346724510	Computer Engineerin	CSL303	Computer Graphics Lab	2020-21
94	REV- 2019 'C' Scheme CBCS	346724510	Computer Engineerin	CSL304	Skill base Lab course: Object Oriented Programming with Java	2020-21
95	REV- 2019 'C' Scheme CBCS	346724510	Computer Engineerin	CSM301	Mini Project – 1 A	2020-21
96	REV- 2019 'C' Scheme CBCS	346724510	Computer Engineerin	CSC401	Engineering Mathematics┐IV	2020-21
97	REV- 2019 'C' Scheme CBCS	346724510	Computer Engineerin	CSC402	Analysis of Algorithm	2020-21
98	REV- 2019 'C' Scheme CBCS	346724510	Computer Engineerin	CSC403	Database Management System	2020-21
99	REV- 2019 'C' Scheme CBCS	346724510	Computer Engineerin	CSC404	Operating System	2020-21
100	REV- 2019 'C' Scheme CBCS	346724510	Computer Engineerin	CSC405	Microprocessor	2020-21
101	REV- 2019 'C' Scheme CBCS	346724510	Computer Engineerin	CSL401	Analysis of Algorithm Lab	2020-21
102	REV- 2019 'C' Scheme CBCS	346724510	Computer Engineerin	CSL402	Database Management System Lab	2020-21
103	REV- 2019 'C' Scheme CBCS	346724510	Computer Engineerin	CSL403	Operating System Lab	2020-21

Principal
Vishwaniketan's (i MEET)

104	REV- 2019 'C' Scheme CBCS	346724510	Computer Engineerin	CSL404	Microprocessor Lab	2020-21
105	REV- 2019 'C' Scheme CBCS	346724510	Computer Engineerin	CSL405	Skill Base Lab Course: Python Programming	2020-21
106	REV- 2019 'C' Scheme CBCS	346724510	Computer Engineerin	CSM401	Mini Project 1-B	2020-21
107	Rev- 2016 CBCGS	346724510	Computer Engineerin	CSC501	Microprocessor	2020-21
108	Rev- 2016 CBCGS	346724510	Computer Engineerin	CSC502	Database Management System	2020-21
109	Rev- 2016 CBCGS	346724510	Computer Engineerin	CSC503	Theory of Computer Science	2020-21
110	Rev- 2016 ELECTIVE	346724510	Computer Engineerin	CSDLO5011	Multimedia System	2020-21
111	Rev- 2016 ELECTIVE	346724510	Computer Engineerin	CSDLO5013	Advance Algorithm	2020-21
112	Rev- 2016 CBCGS	346724510	Computer Engineerin	CSL501	Microprocessor Lab	2020-21
113	Rev- 2016 CBCGS	346724510	Computer Engineerin	CSL502	Computer Network Lab	2020-21
114	Rev- 2016 CBCGS	346724510	Computer Engineerin	CSL503	Database & Info. System Lab	2020-21
115	Rev- 2016 CBCGS	346724510	Computer Engineerin	CSL504	Web Design Lab	2020-21
116	Rev- 2016 CBCGS	346724510	Computer Engineerin	CSL505	Business Comm. & Ethics	2020-21
117	Rev- 2016 CBCGS	346724510	Computer Engineerin	CSC601	Software Engineering	2020-21
118	Rev- 2016 CBCGS	346724510	Computer Engineerin	CSC602	System Programming & Complier Construction	2020-21
119	Rev- 2016 CBCGS	346724510	Computer Engineerin	CSC603	Data Warehousing & Mining	2020-21
120	Rev- 2016 CBCGS	346724510	Computer Engineerin	CSC604	Cryptography & System Security	2020-21
121	Rev- 2016 ELECTIVE	346724510	Computer Engineerin	CSDLO6021	Machine Learning	2020-21
122	Rev- 2016 ELECTIVE	346724510	Computer Engineerin	CSDLO6023	Enterprise Resource P anning	2020-21
123	Rev- 2016 CBCGS	346724510	Computer Engineerin	CSL601	Software Engineering Lab	2020-21
124	Rev- 2016 CBCGS	346724510	Computer Engineerin	CSL602	System software Lab	2020-21
125	Rev- 2016 CBCGS	346724510	Computer Engineerin	CSL603	Data Warehousing & Mining Lab	2020-21
126	Rev- 2016 CBCGS	346724510	Computer Engineerin	CSL604	System Security Lab	2020-21
127	Rev- 2016 CBCGS	346724510	Computer Engineerin	CSP605	Mini-Project	2020-21
128	Rev- 2016 CBCGS	346724510	Computer Engineerin	CSC701	Digital Signal & Image Processing	2020-21
129	Rev- 2016 CBCGS	346724510	Computer Engineerin	CSC702	Mobile Communication & Computing	2020-21
130	Rev- 2016 CBCGS	346724510	Computer Engineerin	CSC703	Artificial Intelligence & Soft Computing	2020-21
131	Rev- 2016 ELECTIVE	346724510	Computer Engineerin	CSDLO7032	Big Data & Analytics	2020-21
132	Rev- 2016 ELECTIVE	346724510	Computer Engineerin	ILO7013	Management Information System	2020-21

TRUE COPY

Principal
Vishwaniketan's (i MEET)

Vishwaniketan iMEET

133	Rev- 2016 ELECTIVE	346724510	Computer Engineerin	ILO7016	Cyber Security and Laws	2020-21
134	Rev- 2016 ELECTIVE	346724510	Computer Engineerin	ILO7017	Disaster Management & Mitigation Measures	2020-21
135	Rev- 2016 CBCGS	346724510	Computer Engineerin	CSL701	Digital Signal & Image Processing Lab	2020-21
136	Rev- 2016 CBCGS	346724510	Computer Engineerin	CSL702	Mobile App. Development. Tech. Lab	2020-21
137	Rev- 2016 CBCGS	346724510	Computer Engineerin	CSL703	Artificial Intelligence & Soft Computing Lab	2020-21
138	Rev- 2016 CBCGS	346724510	Computer Engineerin	CSL704	Computational Lab-I	2020-21
139	Rev- 2016 CBCGS	346724510	Computer Engineerin	CSP705	Major Project-I	2020-21
140	Rev- 2016 CBCGS	346724510	Computer Engineerin	CSC801	Human Machine Interaction	2020-21
141	Rev- 2016 CBCGS	346724510	Computer Engineerin	CSC802	Distributed Computing	2020-21
142	Rev- 2016 ELECTIVE	346724510	Computer Engineerin	DLO8012	Natural Language Processing	2020-21
143	Rev- 2016 ELECTIVE	346724510	Computer Engineerin	ILO8021	Project Management	2020-21
144	Rev- 2016 ELECTIVE	346724510	Computer Engineerin	ILO8023	Entrepreneurship Development and Management	2020-21
145	Rev- 2016 ELECTIVE	346724510	Computer Engineerin	ILO8028	Digital Business Management	2020-21
146	Rev- 2016 ELECTIVE	346724510	Computer Engineerin	ILO8029	Environmental Management	2020-21
147	Rev- 2016 CBCGS	346724510	Computer Engineerin	CSL801	Human Machine Interaction Lab	2020-21
148	Rev- 2016 CBCGS	346724510	Computer Engineerin	CSL802	Distributed Computing Lab	2020-21
149	Rev- 2016 CBCGS	346724510	Computer Engineerin	CSL803	Cloud Computing Lab	2020-21
150	Rev- 2016 CBCGS	346724510	Computer Engineerin	CSL804	Computational Lab-II	2020-21
151	Rev- 2016 CBCGS	346724510	Computer Engineerin	CSP805	Major Project-II	2020-21
152	REV- 2019 'C' Scheme CBCS	346729310	Electrical Engineering	EEC301	Engineering Mathematics - III	2020-21
153	REV- 2019 'C' Scheme CBCS	346729310	Electrical Engineering	EEC302	Electrical Circuit Analysis	2020-21
154	REV- 2019 'C' Scheme CBCS	346729310	Electrical Engineering	EEC303	Fundamentals of Electrical Machines & Measurements	2020-21
155	REV- 2019 'C' Scheme CBCS	346729310	Electrical Engineering	EEC304	Electrical Power System I	2020-21
156	REV- 2019 'C' Scheme CBCS	346729310	Electrical Engineering	EEC305	Analog Electronics	2020-21
157	REV- 2019 'C' Scheme CBCS	346729310	Electrical Engineering	EEL301	Electrical Machines & Measurements Lab	2020-21
158	REV- 2019 'C' Scheme CBCS	346729310	Electrical Engineering	EEL302	Electronics Lab-I	2020-21
159	REV- 2019 'C' Scheme CBCS	346729310	Electrical Engineering	EEL303	Simulation Lab-I	2020-21

TRUE COPY

Principal
Vishwaniketan's (i MEET)

160	REV- 2019 'C' Scheme CBCS	346729310	Electrical Engineering	EEL304	SBL-I: Applied Electrical Engineering Lab	2020-21
161	REV- 2019 'C' Scheme CBCS	346729310	Electrical Engineering	EEM301	Mini Project – 1A	2020-21
162	REV- 2019 'C' Scheme CBCS	346729310	Electrical Engineering	EEC401	Engineering Mathematics-IV	2020-21
163	REV- 2019 'C' Scheme CBCS	346729310	Electrical Engineering	EEC402	Electrical AC Machines-I	2020-21
164	REV- 2019 'C' Scheme CBCS	346729310	Electrical Engineering	EEC403	Digital Electronics	2020-21
165	REV- 2019 'C' Scheme CBCS	346729310	Electrical Engineering	EEC404	Power Electronic Devices and Circuits	2020-21
166	REV- 2019 'C' Scheme CBCS	346729310	Electrical Engineering	EEC405	Electric and Hybrid Electric Vehicles	2020-21
167	REV- 2019 'C' Scheme CBCS	346729310	Electrical Engineering	EEL401	Electrical AC Machines Lab - I	2020-21
168	REV- 2019 'C' Scheme CBCS	346729310	Electrical Engineering	EEL402	Python Programming Lab	2020-21
169	REV- 2019 'C' Scheme CBCS	346729310	Electrical Engineering	EEL403	Electronics Lab II	2020-21
170	REV- 2019 'C' Scheme CBCS	346729310	Electrical Engineering	EEL404	SBL-II : PCB Design and Fabrication Lab	2020-21
171	REV- 2019 'C' Scheme CBCS	346729310	Electrical Engineering	EEM401	Mini Project – 1B	2020-21
172	Rev- 2016 CBCGS	346729310	Electrical Engineering	EEC501	Power System - II	2020-21
173	Rev- 2016 CBCGS	346729310	Electrical Engineering	EEC502	Electrical Machines - III	2020-21
174	Rev- 2016 CBCGS	346729310	Electrical Engineering	EEC503	Control System - I	2020-21
175	Rev- 2016 CBCGS	346729310	Electrical Engineering	EEC504	Power Electronics	2020-21
176	Rev- 2016 CBCGS	346729310	Electrical Engineering	EEL501	Business Communication and Ethics	2020-21
177	Rev- 2016 CBCGS	346729310	Electrical Engineering	EEL502	Control System Lab	2020-21
178	Rev- 2016 CBCGS	346729310	Electrical Engineering	EEL503	Electrical Machines Lab - III	2020-21
179	Rev- 2016 CBCGS	346729310	Electrical Engineering	EEL504	Power Electronics Lab	2020-21
180	Rev- 2016 ELECTIVE	346729310	Electrical Engineering	EEDLO5011	Communication Engineering	2020-21
181	Rev- 2016 ELECTIVE	346729310	Electrical Engineering	EEDLO5012	Renewable Energy and Energy Storage	2020-21
182	Rev- 2016 ELECTIVE	346729310	Electrical Engineering	EEDLO5013	Utilization of Electrical Energy	2020-21
183	Rev- 2016 CBCGS	346729310	Electrical Engineering	EEC601	Protection and Switchgear Engineering	2020-21
184	Rev- 2016 CBCGS	346729310	Electrical Engineering	EEC602	Electrical Machines - IV	2020-21
185	Rev- 2016 CBCGS	346729310	Electrical Engineering	EEC603	Signal processing	2020-21
186	Rev- 2016 CBCGS	346729310	Electrical Engineering	EEC604	Microcontroller and its Applications	2020-21
187	Rev- 2016 CBCGS	346729310	Electrical Engineering	EEC605	Control System - II	2020-21
188	Rev- 2016 CBCGS	346729310	Electrical Engineering	EEL601	Electrical Protection Lab	2020-21
189	Rev- 2016 CBCGS	346729310	Electrical Engineering	EEL602	Electrical Machines Lab - IV	2020-21

TRUE COPY

Principal
Vishwaniketan's (I MEET)

Vishwaniketan's I.M.E.E.T.

190	Rev- 2016 CBCGS	346729310	Electrical Engineering	EEL603	Microcontroller Lab	2020-21
191	Rev- 2016 CBCGS	346729310	Electrical Engineering	EEL604	Simulation Lab – II	2020-21
192	Rev- 2016 ELECTIVE	346729310	Electrical Engineering	EEDLO6021	Digital Communication Engineering	2020-21
193	Rev- 2016 ELECTIVE	346729310	Electrical Engineering	EEDLO6022	Micro-grid	2020-21
194	Rev- 2016 ELECTIVE	346729310	Electrical Engineering	EEDLO6023	Advanced Power Electronics	2020-21
195	Rev- 2016 CBCGS	346729310	Electrical Engineering	EEC701	Power System - III	2020-21
196	Rev- 2016 CBCGS	346729310	Electrical Engineering	EEC702	Drives and Control	2020-21
197	Rev- 2016 CBCGS	346729310	Electrical Engineering	EEC703	High Voltage Direct Current Transmission	2020-21
198	Rev- 2016 CBCGS	346729310	Electrical Engineering	EEL701	Simulation Lab - III	2020-21
199	Rev- 2016 CBCGS	346729310	Electrical Engineering	EEL702	Drives and Control Lab	2020-21
200	Rev- 2016 CBCGS	346729310	Electrical Engineering	EEL703	Project-I	2020-21
201	Rev- 2016 ELECTIVE	346729310	Electrical Engineering	EEDLO7031	High Voltage Engineering	2020-21
202	Rev- 2016 ELECTIVE	346729310	Electrical Engineering	EEDLO7032	Electric Vehicle Technology	2020-21
203	Rev- 2016 ELECTIVE	346729310	Electrical Engineering	EEDLO7033	Industrial Controller	2020-21
204	Rev- 2016 ELECTIVE	346729310	Electrical Engineering	EEDLO7034	Power Quality	2020-21
205	Rev- 2016 ELECTIVE	346729310	Electrical Engineering	ILO7011	Product Lifecycle Management	2020-21
206	Rev- 2016 ELECTIVE	346729310	Electrical Engineering	ILO7012	Reliability Engineering ILO7013 Management Information System	2020-21
207	Rev- 2016 ELECTIVE	346729310	Electrical Engineering	ILO7014	Design of Experiments	2020-21
208	Rev- 2016 ELECTIVE	346729310	Electrical Engineering	ILO7015	Operation Research	2020-21
209	Rev- 2016 ELECTIVE	346729310	Electrical Engineering	ILO7016	Cyber Security and Laws	2020-21
210	Rev- 2016 ELECTIVE	346729310	Electrical Engineering	ILO7017	Disaster Management and Mitigation Measures	2020-21
211	Rev- 2016 ELECTIVE	346729310	Electrical Engineering	ILO7018	Energy Audit and Management	2020-21
212	Rev- 2016 ELECTIVE	346729310	Electrical Engineering	ILO7019	Development Engineering	2020-21
213	Rev- 2016 CBCGS	346729310	Electrical Engineering	EEC801	Design, Management and Auditing of Electrical Systems	2020-21
214	Rev- 2016 CBCGS	346729310	Electrical Engineering	EEC802	Flexible AC Transmission System	2020-21
215	Rev- 2016 CBCGS	346729310	Electrical Engineering	EEL801	Simulation Lab - IV	2020-21
216	Rev- 2016 CBCGS	346729310	Electrical Engineering	EEL802	Electrical System Design Lab	2020-21
217	Rev- 2016 CBCGS	346729310	Electrical Engineering	EEL803	Project-II	2020-21
218	Rev- 2016 ELECTIVE	346729310	Electrical Engineering	EEDLO8041	Illumination Engineering	2020-21

Principal
Vishwaniketan's (i MEET)

219	Rev- 2016 ELECTIVE	346729310	Electrical Engineering	EEDLO8042	Smart Grid	2020-21
220	Rev- 2016 ELECTIVE	346729310	Electrical Engineering	EEDLO8043	Power System Modeling and Control	2020-21
221	Rev- 2016 ELECTIVE	346729310	Electrical Engineering	EEDLO8044	Power System Planning and Reliability	2020-21
222	Rev- 2016 ELECTIVE	346729310	Electrical Engineering	ILO8021	Project Management	2020-21
223	Rev- 2016 ELECTIVE	346729310	Electrical Engineering	ILO8022	Finance Management	2020-21
224	Rev- 2016 ELECTIVE	346729310	Electrical Engineering	ILO8023	Entrepreneurship Development and Management	2020-21
225	Rev- 2016 ELECTIVE	346729310	Electrical Engineering	ILO8024	Human Resource Management	2020-21
226	Rev- 2016 ELECTIVE	346729310	Electrical Engineering	ILO8025	Professional Ethics and Corporate Social Responsibility (CSR)	2020-21
227	Rev- 2016 ELECTIVE	346729310	Electrical Engineering	ILO8026	Research Methodology	2020-21
228	Rev- 2016 ELECTIVE	346729310	Electrical Engineering	ILO8027	IPR and Patenting	2020-21
229	Rev- 2016 ELECTIVE	346729310	Electrical Engineering	ILO8028	Digital Business Management	2020-21
230	Rev- 2016 ELECTIVE	346729310	Electrical Engineering	ILO8029	Environmental Management	2020-21
231	REV- 2019 'C' Scheme CBCS	346737210	Electronics and Telecommunication Engg	ECC301	Engineering Mathematics-III	2020-21
232	REV- 2019 'C' Scheme CBCS	346737210	Electronics and Telecommunication Engg	ECC302	Electronic Devices & Circuits	2020-21
233	REV- 2019 'C' Scheme CBCS	346737210	Electronics and Telecommunication Engg	ECC303	Digital System Design	2020-21
234	REV- 2019 'C' Scheme CBCS	346737210	Electronics and Telecommunication Engg	ECC304	Network Theory	2020-21
235	REV- 2019 'C' Scheme CBCS	346737210	Electronics and Telecommunication Engg	ECC305	Electronic Instrumentation& Control Systems	2020-21
236	REV- 2019 'C' Scheme CBCS	346737210	Electronics and Telecommunication Engg	ECL301	Electronic Devices & Circuits	2020-21

TRUE COPY

Principal
Vishwaniketan's (i MEET)

Vishwaniketan iMEET E.N. 3467

237	REV- 2019 'C' Scheme CBCS	346737210	Electronics and Telecommunication Engg	ECL302	Digital System Design Lab	2020-21
238	REV- 2019 'C' Scheme CBCS	346737210	Electronics and	ECL303	Electronic Instrumentation & Control	2020-21
239	REV- 2019 'C' Scheme CBCS	346737210	Electronics and Telecommunication Engg	ECL304	Skill Lab: C++ and Java Programming	2020-21
240	REV- 2019 'C' Scheme CBCS	346737210	Electronics and Telecommunication Engg	ECM301	Mini Project 1A	2020-21
241	REV- 2019 'C' Scheme CBCS	346737210	Electronics and Telecommunication Engg	ECC401	Engineering Mathematics IV	2020-21
242	REV- 2019 'C' Scheme CBCS	346737210	Electronics and Telecommunication Engg	ECC402	Microcontrollers	2020-21
243	REV- 2019 'C' Scheme CBCS	346737210	Electronics and Telecommunication Engg	ECC403	Linear Integrated Circuits	2020-21
244	REV- 2019 'C' Scheme CBCS	346737210	Electronics and Telecommunication Engg	ECC404	Signals & Systems	2020-21
245	REV- 2019 '(' Scheme CBCS	346737210	Electronics and Telecommunication Engg	ECC405	Principles of Communication Engineering	2020-21
246	REV- 2019 'C' Scheme CBCS	346737210	Electronics and Telecommunication Engg	ECL401	Microcontrollers Lab	2020-21
247	REV- 2019 'C' Scheme CBCS	346737210	Electronics and Telecommunication Engg	ECL402	Linear Integrated Circuits Lab	2020-21

TRUE COPY

Principal
Vishwaniketan's (i MEET)

248	REV- 2019 'C' Scheme CBCS	346737210	Electronics and Telecommunication Engg	ECL403	Principles of Communication Engineering Lab	2020-21
249	REV- 2019 'C' Scheme CBCS	346737210	Electronics and Telecommunication Engg	ECL404	Skill Lab: Python Programming	2020-21
250	REV- 2019 'C' Scheme CBCS	346737210	Electronics and Telecommunication Engg	ECM401	Mini Project 1P	2020-21
251	Rev- 2016 CBCGS	346737210	Electronics and Telecommunication Engg	ECC501	Digital Communication	2020-21
252	Rev- 2016 CBCGS	346737210	Electronics and Telecommunication Engg	ECC502	Discrete Time Signal Processing	2020-21
253	Rev- 2016 CBCGS	346737210	Electronics and Telecommunication Engg	ECC503	Digital VLSI	2020-21
254	Rev- 2016 CBCGS	346737210	Electronics and Telecommunication Engg	ECC504	Random Signal Analysis	2020-21
255	Rev- 2016 ELECTIVE	346737210	Electronics and Telecommunication Engg	ECCDLO5011	Digital and IPTV Engineering	2020-21
256	Rev- 2016 ELECTIVE	346737210	Electronics and Telecommunication Engg	ECCDLO5012	Data Compression and Cryptography	2020-21
257	Rev- 2016 ELECTIVE	346737210	Electronics and Telecommunication Engg	ECCDLO5013	IT Infra and Security	2020-21
258	Rev- 2016 ELECTIVE	346737210	Electronics and Telecommunication Engg	ECCDLO5014	Data Structures and Algorithm	2020-21

TRUE COPY

Principal
Vishwaniketan's (I MEET)

Vishwaniketan iMEET E.N. 3467

259	Rev- 2016 ELECTIVE	346737210	Electronics and Telecommunication Engg	ECCDLO5015	Sensor Technology	2020-21
260	Rev- 2016 CBCGS	346737210	Electronics and Telecommunication Engg	ECL501	Digital Communication Lab	2020-21
261	Rev- 2016 CBCGS	346737210	Electronics and Telecommunication Engg	ECL502	Discrete Time Signal Processing Lab	2020-21
262	Rev- 2016 CBCGS	346737210	Electronics and Telecommunication Engg	ECL503	Digital VLSI Lab	2020-21
263	Rev- 2016 CBCGS	346737210	Electronics and Telecommunication Engg	ECL504	Professional Communication & Ethics - II	2020-21
264	Rev- 2016 CBCGS	346737210	Electronics and Telecommunication Engg	ECM501	Mini Project 2A: Embedded System Project	2020-21
265	Rev- 2016 CBCGS	346737210	Electronics and Telecommunication Engg	ECC601	Electromagnetics and Antenna	2020-21
266	Rev- 2016 CBCGS	346737210	Electronics and Telecommunication Engg	ECC602	Computer Communication Networks	2020-21
267	Rev- 2016 CBCGS	346737210	Electronics and Telecommunication Engg	ECC603	Image Processing and Machine Vision	2020-21
268	Rev- 2016 CBCGS	346737210	Electronics and Telecommunication Engg	ECC604	Artificial Neural Network and Fuzzy Logic	2020-21
269	Rev- 2016 ELECTIVE	346737210	Electronics and Telecommunication Engg	ECCDLO6011	Advanced VLSI	2020-21

TRUE COPY

Principal

270	Rev- 2016 ELECTIVE	346737210	Electronics and Telecommunication Engg	ECCDLO6012	Computer Organization and Architecture	2020-21
271	Rev- 2016 ELECTIVE	346737210	Electronics and Telecommunication Engg	ECCDLO6014	Database Management System	2020-21
272	Rev- 2016 ELECTIVE	346737210	Electronics and Telecommunication Engg	ECCDLO6015	IoT and Industry 4.0	2020-21
273	Rev- 2016 ELECTIVE	346737210	Electronics and Telecommunication Engg	ECCDLO6016	Radar Engineering	2020-21
274	Rev- 2016 CBCGS	346737210	Electronics and Telecommunication Engg	ECL601	Electromagnetics and Antenna Lab	2020-21
275	Rev- 2016 CBCGS	346737210	Electronics and Telecommunication Engg	ECL602	Computer Communication Networks Lab	2020-21
276	Rev- 2016 CBCGS	346737210	Electronics and Telecommunication Engg	ECL603	Image Processing and Machine Vision Lab	2020-21
277	Rev- 2016 CBCGS	346737210	Electronics and Telecommunication Engg	ECL604	Skill Lab: Linux and Networking and Server Configuration	2020-21
278	Rev- 2016 CBCGS	346737210	Electronics and Telecommunication Engg	ECM601	Mini Project 2B- FPGA based Project	2020-21
279	Rev- 2016 CBCGS	346737210	Electronics and Telecommunication Engg	ECC701	Microwave Engineering	2020-21
280	Rev- 2016 CBCGS	346737210	Electronics and Telecommunication Engg	ECC702	Mobile Communication System	2020-21

TRUE COPY

Principal
Vishwaniketan's (i MEET)

Vishwaniketan iMEET

281	Rev- 2016 CBCGS	346737210	Electronics and Telecommunication Engg	ECC703	Optical Communication	2020-21
282	Rev- 2016 ELECTIVE	346737210	Electronics and Telecommunication Engg	ECCDLO7031	Neural Networks and Fuzzy Logic	2020-21
283	Rev- 2016 ELECTIVE	346737210	Electronics and Telecommunication Engg	ECCDLO7032	Big Data Analytics	2020-21
284	Rev- 2016 ELECTIVE	346737210	Electronics and Telecommunication Engg	ECCDLO7033	Internet Communication Engineering	2020-21
285	Rev- 2016 ELECTIVE	346737210	Electronics and Telecommunication Engg	ECCDLO7034	CMOS Mixed Signal VLSI	2020-21
286	Rev- 2016 ELECTIVE	346737210	Electronics and Telecommunication Engg	ECCDLO7035	Embedded System	2020-21
287	Rev- 2016 ELECTIVE	346737210	Electronics and Telecommunication Engg	ILO7011	Product Lifecycle Management	2020-21
288	Rev- 2016 ELECTIVE	346737210	Electronics and Telecommunication Engg	ILO7012	Reliability Engineering	2020-21
289	Rev- 2016 ELECTIVE	346737210	Electronics and Telecommunication Engg	ILO7013	Management Information System	2020-21
290	Rev- 2016 ELECTIVE	346737210	Electronics and Telecommunication Engg	ILO7014	Design of Experiments	2020-21
291	Rev- 2016 ELECTIVE	346737210	Electronics and Telecommunication Engg	ILO7015	Operation Research	2020-21

TRUE COPY

Principal
Vishwaniketan's (i MEET)

Vishwaniketan iMEET E.N. 3467

292	Rev- 2016 ELECTIVE	346737210	Electronics and Telecommunication Engg	ILO7016	Cyber Security and Laws	2020-21
293	Rev- 2016 ELECTIVE	346737210	Electronics and Telecommunication Engg	ILO7017	Disaster Management and Mitigation Measures	2020-21
294	Rev- 2016 ELECTIVE	346737210	Electronics and Telecommunication Engg	ILO7018	Energy Audit and Management	2020-21
295	Rev- 2016 ELECTIVE	346737210	Electronics and Telecommunication Engg	ILO7019	Development Engineering	2020-21
296	Rev- 2016 CBCGS	346737210	Electronics and Telecommunication Engg	ECL701	Microwave Engineering Lab	2020-21
297	Rev- 2016 CBCGS	346737210	Electronics and Telecommunication Engg	ECL702	Mobile Communication System Lab	2020-21
298	Rev- 2016 CBCGS	346737210	Electronics and Telecommunication Engg	ECL703	Optical Communication Lab	2020-21
299	Rev- 2016 ELECTIVE	346737210	Electronics and Telecommunication Engg	ECLLO7031	Neural Networks and Fuzzy Logic	2020-21
300	Rev- 2016 ELECTIVE	346737210	Electronics and Telecommunication Engg	ECLDLO7032	Big Data Analytics	2020-21
301	Rev- 2016 ELECTIVE	346737210	Electronics and Telecommunication Engg	ECLDLO7033	Internet Communication Engineering	2020-21
302	Rev- 2016 ELECTIVE	346737210	Electronics and Telecommunication Engg	ECLDLO7034	CMOS Mixed Signal VLSI	2020-21

TRUE COPY

Principal
Vishwaniketan's (i MEET)

Vishwaniketan IMEET E.N. 3461

303	Rev- 2016 ELECTIVE	346737210	Electronics and Telecommunication Engg	ECCDLO7035	Embedded System	2020-21
304	Rev- 2016 CBCGS	346737210	Electronics and Telecommunication Engg	ECL704	Project-I	2020-21
305	Rev- 2016 CBCGS	346737210	Electronics and Telecommunication Engg	ECC801	RF Design	2020-21
306	Rev- 2016 CBCGS	346737210	Electronics and Telecommunication Engg	ECC802	Wireless Networks	2020-21
307	Rev- 2016 ELECTIVE	346737210	Electronics and Telecommunication Engg	ECCDLO8041	Optical Networks	2020-21
308	Rev- 2016 ELECTIVE	346737210	Electronics and Telecommunication Engg	ECCDLO8042	Advanced Digital Signal Processing	2020-21
309	Rev- 2016 ELECTIVE	346737210	Electronics and Telecommunication Engg	ECCDLO8043	Satellite Communication	2020-21
310	Rev- 2016 ELECTIVE	346737210	Electronics and Telecommunication Engg	ECCDLO8044	Network management in Telecommunication	2020-21
311	Rev- 2016 ELECTIVE	346737210	Electronics and Telecommunication Engg	ILO8021	Project Management	2020-21
312	Rev- 2016 ELECTIVE	346737210	Electronics and Telecommunication Engg	ILO8022	Finance Management	2020-21
313	Rev- 2016 ELECTIVE	346737210	Electronics and Telecommunication Engg	ILO8023	Entrepreneurship Development and Management	2020-21

TRUE COPY

Principal
Vishwaniketan's (i MEET)

314	Rev- 2016 ELECTIVE	346737210	Electronics and Telecommunication Engg	ILO8024	Human Resource Management	2020-21
315	Rev- 2016 ELECTIVE	346737210	Electronics and Telecommunication Engg	ILO8025	Professional Ethics and CSR	2020-21
316	Rev- 2016 ELECTIVE	346737210	Electronics and Telecommunication Engg	ILO8026	Research Methodology	2020-21
317	Rev- 2016 ELECTIVE	346737210	Electronics and Telecommunication Engg	ILO8027	IPR and Patenting	2020-21
318	Rev- 2016 ELECTIVE	346737210	Electronics and Telecommunication Engg	ILO8028	Digital Business Management	2020-21
319	Rev- 2016 ELECTIVE	346737210	Electronics and Telecommunication Engg	ILO8029	Environmental Management	2020-21
320	Rev- 2016 CBCGS	346737210	Electronics and Telecommunication Engg	ECL801	RF Design Lab	2020-21
321	Rev- 2016 CBCGS	346737210	Electronics and Telecommunication Engg	ECL802	Wireless Networks Lab	2020-21
322	Rev- 2016 ELECTIVE	346737210	Electronics and Telecommunication Engg	ECLDLO8041	Optical Networks Lab	2020-21
323	Rev- 2016 ELECTIVE	346737210	Electronics and Telecommunication Engg	ECLDLO8042	Advanced Digital Signal Processing Lab	2020-21
324	Rev- 2016 ELECTIVE	346737210	Electronics and Telecommunication Engg	ECLDLO8043	Satellite Communication Lab	2020-21

TRUE COPY

Principal
Vishwaniketan's (i MEET)

325	Rev- 2016 ELECTIVE	346737210	Electronics and Telecommunication Engg	ECLDLO8044	Network management in Telecommunication Lab	2020-21
326	Rev- 2016 ELECTIVE	346737210	Electronics and Telecommunication Engg	ECLDLO 8044	Network management in Telecommunication Lab-IV	2020-21
327	Rev- 2016 CBCGS	346737210	Electronics and	ECL803	Project-II	2020-21
328	REV- 2019 'C' Scheme CBCS	346761210	Mechanical Engineering	MEC301	Engineering Mathematics - III	2020-21
329	REV- 2019 'C' Scheme CBCS	346761210	Mechanical Engineering	MEC302	Strength of Materials	2020-21
330	REV- 2019 'C' Scheme CBCS	346761210	Mechanical Engineering	MEC303	Production Processes	2020-21
331	REV- 2019 'C' Scheme CBCS	346761210	Mechanical Engineering	MEC304	Material & Metallurgy	2020-21
332	REV- 2019 'C' Scheme CBCS	346761210	Mechanical Engineering	MEC305	Thermodynamics	2020-21
333	REV- 2019 'C' Scheme CBCS	346761210	Mechanical Engineering	MEL301	Material Testing	2020-21
334	REV- 2019 'C' Scheme CBCS	346761210	Mechanical Engineering	MEL302	Machine Shop Practice	2020-21
335	REV- 2019 'C' Scheme CBCS	346761210	Mechanical Engineering	MESBL301	CAD- Modeling	2020-21
336	REV- 2019 'C' Scheme CBCS	346761210	Mechanical Engineering	MEPBL301	Mini Project - 1 A	2020-21
337	REV- 2019 'C' Scheme CBCS	346761210	Mechanical Engineering	MEC401	Engineering Mathematics - IV	2020-21
338	REV- 2019 'C' Scheme CBCS	346761210	Mechanical Engineering	MEC402	Fluid Mechanics	2020-21
339	REV- 2019 'C' Scheme CBCS	346761210	Mechanical Engineering	MEC403	Kinematics of Machinery	2020-21
340	REV- 2019 'C' Scheme CBCS	346761210	Mechanical Engineering	MEC404	CAD/ CAM	2020-21

TRUE COPY

Principal
Vishwaniketan's (i MEET)

Vishwaniketan IMEET

341	REV- 2019 'C' Scheme CBCS	346761210	Mechanical Engineering	MEC405	Industrial Electronics	2020-21
342	REV- 2019 'C' Scheme CBCS	346761210	Mechanical Engineering	MEL401	Industrial Electronics	2020-21
343	REV- 2019 'C' Scheme CBCS	346761210	Mechanical Engineering	MEL402	Kinematics of Machinery	2020-21
344	REV- 2019 'C' Scheme CBCS	346761210	Mechanical Engineering	MESBL401	Python Programming	2020-21
345	REV- 2019 'C' Scheme CBCS	346761210	Mechanical Engineering	MESBL401	CNC and 3-D Printing	2020-21
346	REV- 2019 'C' Scheme CBCS	346761210	Mechanical Engineering	MEPBL401	Mini Project - 1 B	2020-21
347	Rev- 2016 CBCGS	346761210	Mechanical Engineering	MEC501	Internal Combustion Engines	2020-21
348	Rev- 2016 CBCGS	346761210	Mechanical Engineering	MEC502	Mechanical Measurement & Control	2020-21
349	Rev- 2016 CBCGS	346761210	Mechanical Engineering	MEC503	Heat Transfer	2020-21
350	Rev- 2016 CBCGS	346761210	Mechanical Engineering	MEC504	Dynamics o Machinery	2020-21
351	Rev- 2016 ELECTIVE	346761210	Mechanical Engineering	MEDLO5011	Press Tool Design	2020-21
352	Rev- 2016 ELECTIVE	346761210	Mechanical Engineering	MEDLO5012	Machining Sciences and Tool Design	2020-21
353	Rev- 2016 ELECTIVE	346761210	Mechanical Engineering	MEDLO5013	Design of Jigs and Fixtures	2020-21
354	Rev- 2016 CBCGS	346761210	Mechanical Engineering	MEL501	Internal Combustion Engines	2020-21
355	Rev- 2016 CBCGS	346761210	Mechanical Engineering	MEL502	Mechanical Measurement & Control	2020-21
356	Rev- 2016 CBCGS	346761210	Mechanical Engineering	MEL503	Heat Transfer	2020-21

TRUE COPY

Principal
Vishwaniketan's (i MEET)

Vishwaniketan iMEET

357	Rev- 2016 CBCGS	346761210	Mechanical Engineering	MEL504	Dynamics o Machinery	2020-21
358	Rev- 2016 C 3CGS	346761210	Mechanical Engineering	MEL505	Manufacturing Sciences Lab	2020-21
359	Rev- 2016 CBCGS	346761210	Mechanical Engineering	MEL506	Business Communication & Ethics	2020-21
360	Rev- 2016 CBCGS	346761210	Mechanical Engineering	MEC601	Metrology & Quality Engineering	2020-21
361	Rev- 2016 CBCGS	346761210	Mechanical Engineering	MEC602	Machine Design - I	2020-21
362	Rev- 2016 CBCGS	346761210	Mechanical Engineering	MEC603	Finite Element Analysis	2020-21
363	Rev- 2016 CBCGS	346761210	Mechanical Engineering	MEC604	Refrigeration & Air Conditioning	2020-21
364	Rev- 2016 ELECTIVE	346761210	Mechanical Engineering	MEDLO6021	Mechatronics	2020-21
365	Rev- 2016 ELECTIVE	346761210	Mechanical Engineering	MEDLO6022	Robotics	2020-21
366	Rev- 2016 ELECTIVE	346761210	Mechanical Engineering	MEDLO6023	Industrial Automation	2020-21
367	Rev- 2016 CBCGS	346761210	Mechanical Engineering	MEL601	Metrology & Quality Engineering	2020-21
368	Rev- 2016 CBCGS	346761210	Mechanical Engineering	MEL602	Machine Design - I	2020-21
369	Rev- 2016 CBCGS	346761210	Mechanical Engineering	MEL603	Finite Element Analysis	2020-21
370	Rev- 2016 CBCGS	346761210	Mechanical Engineering	MEL604	Refrigeration & Air Conditioning	2020-21
371	Rev- 2016 CBCGS	346761210	Mechanical Engineering	MEL605	Mechatonics Lab	2020-21
372	Rev- 2016 CBCGS	346761210	Mechanical Engineering	MEC701	Machine Design- II	2020-21

TRUE COPY

Principal
Vishwaniketan's (I MEET)

373	Rev- 2016 C CGS	346761210	Mechanical Engineering	MEC702	CAD/CAM/CAE	2020-21
374	Rev- 2016 CBCGS	346761210	Mechanical Engineering	MEC703	Production Planning & Control	2020-21
375	Rev- 2016 ELECTIVE	346761210	Mechanical Engineering	MEDLO7031	Mechanical Vibrations	2020-21
376	Rev- 2016 ELECTIVE	346761210	Mechanical Engineering	MEDLO7032	Automobile Engineering	2020-21
377	Rev- 2016 ELECTIVE	346761210	Mechanical Engineering	MEDLO7033	Pumps, Compressors and Fans	2020-21
378	Rev- 2016 ELECTIVE	346761210	Mechanical Engineering	MEDLO7034	Computational Fluid Dynamics	2020-21
379	Rev- 2016 ELECTIVE	346761210	Mechanical Engineering	ILO7011	Product Lifecycle Management	2020-21
380	Rev- 2016 ELECTIVE	346761210	Mechanical Engineering	ILO7012	Reliability Engineering	2020-21
381	Rev- 2016 ELECTIVE	346761210	Mechanical Engineering	ILO7013	Management Information System	2020-21
382	Rev- 2016 ELECTIVE	346761210	Mechanical Engineering	ILO7014	Design of Experiments	2020-21
383	Rev- 2016 ELECTIVE	346761210	Mechanical Engineering	ILO7015	Operation Research	2020-21
384	Rev- 2016 ELECTIVE	346761210	Mechanical Engineering	ILO7016	Cyber Security and Laws	2020-21
385	Rev- 2016 ELECTIVE	346761210	Mechanical Engineering	ILO7017	Disaster Management and Mitigation Measures	2020-21
386	Rev- 2016 ELECTIVE	346761210	Mechanical Engineering	ILO7018	Energy Audit and Management	2020-21
387	Rev- 2016 ELECTIVE	346761210	Mechanical Engineering	ILO7019	Development Engineering	2020-21
388	Rev- 2016 CBCGS	346761210	Mechanical Engineering	MEL701	Machine Design- II	2020-21

TRUE COPY

Principal
Vishwaniketan's (I MEET)

389	Rev- 2016 CBCGS	346761210	Mechanical Engineering	MEL702	CAD/CAM/CAE	2020-21
390	Rev- 2016 CBCGS	346761210	Mechanical Engineering	MEL703	Production Planning & Control	2020-21
391	Rev- 2016 CBCGS	346761210	Mechanical Engineering	MEL704	Project- I	2020-21
392	Rev- 2016 CBCGS	346761210	Mechanical Engineering	MEC801	Design Of Mechanical System	2020-21
393	Rev- 2016 CBCGS	346761210	Mechanical Engineering	MEC802	Industrial Engineering & Management	2020-21
394	Rev- 2016 CBCGS	346761210	Mechanical Engineering	MEC803	Power Engineering	2020-21
395	Rev- 2016 CBCGS	346761210	Mechanical Engineering	MEDLO8041	Power Plant Engineering	2020-21
396	Rev- 2016 CBCGS	346761210	Mechanical Engineering	MEDLO8042	Rapid Prototyping	2020-21
397	Rev- 2016 CBCGS	346761210	Mechanical Engineering	MEDLO8043	Renewable Energy Systems	2020-21
398	Rev- 2016 CBCGS	346761210	Mechanical Engineering	MEDLO8044	Energy Management in Utility Systems	2020-21
399	Rev- 2016 ELECTIVE	346761210	Mechanical Engineering	ILO8021	Project Management	2020-21
400	Rev- 2016 ELECTIVE	346761210	Mechanical Engineering	ILO8022	Finance Management	2020-21
401	Rev- 2016 ELECTIVE	346761210	Mechanical Engineering	ILO8023	Entrepreneurship Development and Management	2020-21
402	Rev- 2016 ELECTIVE	346761210	Mechanical Engineering	ILO8024	Human Resource Management	2020-21
403	Rev- 2016 ELECTIVE	346761210	Mechanical Engineering	ILO8025	Professional Ethics and CSR	2020-21
404	Rev- 2016 ELECTIVE	346761210	Mechanical Engineering	ILO8026	Research Methodology	2020-21

TRUE COPY

Principal
Vishwaniketan's (i MEET)

405	Rev- 2016 ELECTIVE	346761210	Mechanical Engineering	ILO8027	IPR and Patenting	2020-21
406	Rev- 2016 ELECTIVE	346761210	Mechanical Engineering	ILO8028	Digital Business Management	2020-21
407	Rev- 2016 ELECTIVE	346761210	Mechanical Engineering	ILO8029	Environmental Management	2020-21
408	Rev- 2016 CBCGS	346761210	Mechanical Engineering	MEL801	Design Of Mechanical System	2020-21
409	Rev- 2016 CBCGS	346761210	Mechanical Engineering	MEL802	Power Engineering	2020-21
410	Rev- 2016 CBCGS	346761210	Mechanical Engineering	MEP803	Project- II	2020-21
411	REV- 2019 'C' Scheme CBCS	346791110	Computer Science and Engineering(Artificial Intelligence and Machine Learning)	CSC301	Engineering Mathematics-III	2020-21
412	REV- 2019 'C' Scheme CBCS	346791110	Computer Science and Engineering(Artificial Intelligence and Machine Learning)	CSC302	Data Structures and Graph Theory	2020-21
413	REV- 2019 'C' Scheme CBCS	346791110	Computer Science and Engineering(Artificial Intelligence and Machine Learning)	CSC303	Data Structure	2020-21

TRUE COPY

Principal
Vishwaniketan's (i MEET)

414	REV- 2019 'C' Scheme CBCS	346791110	Computer Science and Engineering(Artificial Intelligence and Machine Learning)	CSC304	Digital Logic and Computer Architecture	2020-21
415	REV- 2019 'C' Scheme CBCS	346791110	Computer Science and Engineering(Artificial Intelligence and Machine Learning)	CSC305	Computer Graphics	2020-21
416	REV- 2019 'C' Scheme CBCS	346791110	Computer Science and Engineering(Artificial Intelligence and Machine Learning)	CSL301	Data Structure Lab	2020-21
417	REV- 2019 'C' Scheme CBCS	346791110	Computer Science and Engineering(Artificial Intelligence and Machine Learning)	CSL302	Digital Logic and Computer Architecture Lab	2020-21
418	REV- 2019 'C' Scheme CBCS	346791110	Computer Science and Engineering(Artificial Intelligence and Machine Learning)	CSL303	Computer Graphics Lab	2020-21
419	REV- 2019 'C' Scheme CBCS	346791110	Computer Science and	CSL304	Skill base Lab course:Object Oriented Programming with Java	2020-21

TRUE COPY

Principal
Vishwaniketan's (i MEET)

420	REV- 2019 'C' Scheme CBCS	346791110	Computer Science and Engineering(Artificial Intelligence and Machine Learning)	CSM301	Mini Project -1A	2020-21
421	REV- 2019 'C' Scheme CBCS	346791110	Computer Science and Engineering(Artificial Intelligence and Machine Learning)	CSC401	Engineering Mathematics-IV	2020-21
422	REV- 2019 'C' Scheme CBCS	346791110	Computer Science and Engineering(Artificial Intelligence and Machine Learning)	CSC402	Analysis of Algorithm 3	2020-21
423	REV- 2019 'C' Scheme CBCS	346791110	Computer Science and Engineering(Artificial Intelligence and Machine Learning)	CSC403	Database Management System	2020-21
424	REV- 2019 'C' Scheme CBCS	346791110	Computer Science and Engineering(Artificial Intelligence and Machine Learning)	CSC404	Operating System	2020-21

TRUE COPY

Principal
Vishwaniketan's (i MEET)

425	REV- 2019 'C' Scheme CBCS	346791110	Computer Science and Engineering(Artificial Intelligence and Machine Learning)	CSC405	Microprocessor	2020-21
426	REV- 2019 'C' Scheme CBCS	346791110	Computer Science and Engineering(Artificial Intelligence and Machine Learning)	CSL401	Analysis of Algorithm Lab	2020-21
427	REV- 2019 'C' Scheme CBCS	346791110	Computer Science and Engineering(Artificial Intelligence and Machine Learning)	CSL402	Database Management System Lab	2020-21
428	REV- 2019 'C' Scheme CBCS	346791110	Computer Science and Engineering(Artificial Intelligence and Machine Learning)	CSL403	Operating System Lab	2020-21
429	REV- 2019 'C' Scheme CBCS	346791110	Computer Science and Engineering(Artificial Intelligence and Machine Learning)	CSL404	Microprocessor Lab	2020-21
430	REV- 2019 'C' Scheme CBCS	346791110	Computer Science and	[illegible]405	Skill Base Lab Course:Python Programming	2020-21

TRUE COPY

Principal
Vishwaniketan's (i MEET)

431	REV- 2019 'C' Scheme CBCS	346791110	Computer Science and Engineering(Artificial Intelligence and Machine Learning)	CSM401	Mini Project 1-B	2020-21

TRUE COPY

Principal
Vishwaniketan's (i MEET)

University of Mumbai

Phone – 022- 22 653068 / 22708709 / 500
E-mail aaunituniversityofMumbai@gmail.com

Academic Authorities,
Meetings & Services,
Room No. 143
Fort Campus,
Mumbai – 400 032

Ref. No. AA/ICN/2021-22/140 Dated 28th February, 2022

The minutes of online meeting of the Board of Studies in **Electrical Engineering** under the Faculty of Science & Technology which was held on **Thursday, 2nd March, 2022 at 11.00 a.m.** when the following members were present:-

Dr. Sushil Thale (Chairman)
Dr.B.R.Patil
Dr.S.R.Deore
Dr. B.B. Pimple
Dr.Nandkishore Kinhekar

SE/TE/BE Examiner panels for Electrical Engineering branch for Rev-2016 and Rev-2019 C Scheme.

BoS – Chairman Dr. Sushil Thale informed that as his son will be appearing for Sem. VIII Electrical Engineering FH2022 exams, he won't be participating in exam related activities.

It was resolved that, the preparation of the examiner panels for Sem.III to Sem VIII Electrical Engineering branch for Rev 2016 and Rev 2019 C schemes based on the registered examiners list provided by University of Mumbai will be prepared by the BoS-Electrical Engg without any participation from Dr. Sushil Thale in the process. And Dr. S.R Deore (member-BoS) been authorized to finalize the panels with the help of other BoS members and communicate the same to the AAU and appointment unit (engineering).

Approved

Dr. Sushil Thale
(Chairman, Board of Studies in Electrical Engineering)

Mumbai 400 032

Assistant Registrar
Academic Authorities, Meetings & Services

TRUE COPY

Vishwaniketan IMEET E.N. 3467

Principal
Vishwaniketan's IMEET

University of Mumbai

Phone – 022- 22 653068 / 22708709 / 500
E-mail- aaunituniversityofMumbai@gmail.com

Academic Authorities,
Meetings & Services,
Room No. 143
Fort Campus,
Mumbai – 400 032

The minutes of online meeting of the Board of Studies in **Electrical Engineering** under the Faculty of Science & Technology which was held on **Thursday, 22nd April, 2021 at 4.00 p.m.** when the following members were present:-

Dr. Sushil Thale (Chairman)
Dr.B.R.Patil
Dr.S.R.Deore
Dr. B.B. Pimple
Dr.Nandkishore Kinhekar

1. **T.E. Electrical Engineering Rev-2019 'C' Scheme syllabus.**

It was **resolved** that, the draft copy of B.E. Electrical Engineering Rev-2019 'C' Scheme syllabus was presented in the Board of Studies. After due deliberations on certain aspects of the syllabus contents, the B.E. Electrical Engineering Rev-2019 'C' scheme syllabus (T.E. Sem. V & VI) with effect from academic year 2021-22, was unanimously accepted and approved by the Board of Studies and recommended to Board of Deans meeting.

2. **Honors degree program syllabus scheme and contents.**

It was **resolved** that, the syllabus schemes and primary draft syllabus for proposed Honors degree programs in Electrical Engineering branch i.e. 1) Electric Vehicles and 2) Microgrid Technology were discussed. The basic principles to be followed to prepare the detailed draft syllabus contents for Honors degree programs were finalized and proposed to prepare the syllabus in next 2/3 weeks.

3. **Examiner panel for B.E. Sem. VIII Electrical Engg. and Electronics & Electrical Engg. branches for Rev-2016 and Rev-2012.**

It was **resolved** that, the examiner panels for B.E. Sem. VIII Electrical Engg. and Electronics & Electrical Engg. Branches for Rev 2016 and Rev 2012 based on the registered examiners list provided by University of Mumbai is prepared and approved by Board of Studies.

Approved

Dr. Sushil Thale
(Chairman, Board of Studies in Electrical Engineering)

Mumbai 400 032

Assistant Registrar
Academic Authorities, Meetings & Services

TRUE COPY

Vishwaniketan iMEET E.N. 3467

Principal
Vishwaniketan's (i MEET)

AC: Item No. 4.40
Date: 26TH July, 2019

UNIVERSITY OF MUMBAI

Bachelor of Engineering

First Year Engineering (Semester I & II), Revised course

(REV- 2019'C' Scheme) from Academic Year 2019 – 20

(Common for All Branches of Engineering)

Under

FACULTY OF SCIENCE &TECHNOLOGY

(As per AICTE guidelines with effect from the academic year 2019–2020)

Vishwaniketan iMEET E.N. 3467

TRUE COPY

Principal
Vishwaniketan's (i MEET)

Preamble

To meet the challenge of ensuring excellence in engineering education, the issue of quality needs to be addressed, debated and taken forward in a systematic manner. Accreditation is the principal means of quality assurance in higher education. The major emphasis of accreditation process is to measure the outcomes of the program that is being accredited. In line with this Faculty of Science and Technology (in particular Engineering)of University of Mumbai has taken a lead in incorporating philosophy of outcome based education in the process of curriculum development.

Faculty resolved that course objectives and course outcomes are to be clearly defined for each course, so that all faculty members in affiliated institutes understand the depth and approach of course to be taught, which will enhance learner's learning process. Choice based Credit and grading system enables a much-required shift in focus from teacher-centric to learner-centric education since the workload estimated is based on the investment of time in learning and not in teaching. It also focuses on continuous evaluation which will enhance the quality of education. Credit assignment for courses is based on 15 weeks teaching learning process, however content of courses is to be taught in 12-13 weeks and remaining 2-3 weeks to be utilized for revision, guest lectures, coverage of content beyond syllabus etc.

There was a concern that in the present system, the first year syllabus is heavily loaded and it is of utmost importance that the students entering into the first year of an engineering course should feel at ease by lowering the burden of syllabus and credits. This is necessary for a student to get accustomed to the new environment of a college and to create a bonding between the teacher and a student. In this regard, AICTE has provided a model of Induction Program, which has been accommodated with certain modification and also overall credits proposed by AICTE in their model curriculum.

The present curriculum will be implemented for First Year of Engineering from the academic year 2019-20. Subsequently this system will be carried forward for Second Year Engineering in the academic year 2020-21, for Third Year and Final Year Engineering in the academic years 2021-22, 2022-23, respectively.

Dr. Suresh K. Ukarande
Dean (I/C)
Faculty of Science and Technology
Member, Senate Academic Council
Board of Dean's, BOEE, RRC
University of Mumbai, Mumbai

TRUE COPY

Principal
Vishwaniketan's (MEET)

Item No: 125
AC- 23/7/2020

UNIVERSITY OF MUMBAI

Bachelor of Engineering

in

Civil Engineering

Second Year with Effect from AY 2020-21
Third Year with Effect from AY 2021-22
Final Year with Effect from AY 2022-23

(REV- 2019 'C' Scheme) from Academic Year 2019 – 20

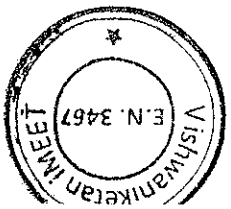
Under

FACULTY OF SCIENCE & TECHNOLOGY

(As per AICTE guidelines with effect from the academic year 2019–2020)

TRUE COPY

Principal
Vishwaniketan's (i MEET)



Item No: -125
AC- 23/7/2020

UNIVERSITY OF MUMBAI

Syllabus for Approval

Sr. No.	Heading	Particulars
1	Title of the Course	**Second Year B.E. Civil Engineering**
2	Eligibility for Admission	**After Passing First Year Engineering as per the Ordinance 0.6242**
3	Passing Marks	**40%**
4	Ordinances / Regulations (if any)	**Ordinance 0.6242**
5	No. of Years / Semesters	**8 semesters**
6	Level	**U.G.**
7	Pattern	**Semester**
8	Status	**New**
9	To be implemented from Academic Year	**With effect from Academic Year: 2020-2021**

Date

Dr. S. K. Ukarande
Associate Dean
Faculty of Science and Technology
University of Mumbai

Vishwaniketan iMEET E.N. 3467

Dr Anuradha Muzumdar
Dean
Faculty of Science and Technology
University of Mumbai

TRUE COPY

Principal
Vishwaniketan's (i MEET)

Preamble

To meet the challenge of ensuring excellence in engineering education, the issue of quality needs to be addressed, debated and taken forward in a systematic manner. Accreditation is the principal means of quality assurance in higher education. The major emphasis of accreditation process is to measure the outcomes of the program that is being accredited. In line with this Faculty of Science and Technology (in particular Engineering) of University of Mumbai has taken a lead in incorporating philosophy of outcome based education in the process of curriculum development.

Faculty resolved that course objectives and course outcomes are to be clearly defined for each course, so that all faculty members in affiliated institutes understand the depth and approach of course to be taught, which will enhance learner's learning process. Choice based Credit and grading system enables a much-required shift in focus from teacher-centric to learner-centric education since the workload estimated is based on the investment of time in learning and not in teaching. It also focuses on continuous evaluation which will enhance the quality of education. Credit assignment for courses is based on 15 weeks teaching learning process, however content of courses is to be taught in 13 weeks and remaining 2 weeks to be utilized for revision, guest lectures, coverage of content beyond syllabus etc.

There was a concern that the earlier revised curriculum more focused on providing information and knowledge across various domains of the said program, which led to heavily loading of students in terms of direct contact hours. In this regard, faculty of science and technology resolved that to minimize the burden of contact hours, total credits of entire program will be of 170, wherein focus is not only on providing knowledge but also on building skills, attitude and self learning. Therefore in the present curriculum skill based laboratories and mini projects are made mandatory across all disciplines of engineering in second and third year of programs, which will definitely facilitate self learning of students. The overall credits and approach of curriculum proposed in the present revision is in line with AICTE model curriculum.

The present curriculum will be implemented for Second Year of Engineering from the academic year 2020-21. Subsequently this will be carried forward for Third Year and Final Year Engineering in the academic years 2021-22, 2022-23, respectively.

Dr. S. K. Ukarande
Associate Dean
Faculty of Science and Technology
University of Mumbai

Dr Anuradha Muzumdar
Dean
Faculty of Science and Technology
University of Mumbai

Vishwaniketan iMEET E.N. 3467

TRUE COPY

Principal
Vishwaniketan's (i MEET)

Incorporation and Implementation of Online Contents from NPTEL/ Swayam Platform

The curriculum revision is mainly focused on knowledge component, skill based activities and project based activities. Self learning opportunities are provided to learners. In the revision process this time in particular Revised syllabus of 'C' scheme wherever possible additional resource links of platforms such as NPTEL, Swayam are appropriately provided. In an earlier revision of curriculum in the year 2012 and 2016 in Revised scheme 'A' and 'B' respectively, efforts were made to use online contents more appropriately as additional learning materials to enhance learning of students.

In the current revision based on the recommendation of AICTE model curriculum overall credits are reduced to 171, to provide opportunity of self learning to learner. Learners are now getting sufficient time for self learning either through online courses or additional projects for enhancing their knowledge and skill sets.

The Principals/ HoD's/ Faculties of all the institute are required to motivate and encourage learners to use additional online resources available on platforms such as NPTEL/ Swayam. Learners can be advised to take up online courses, on successful completion they are required to submit certification for the same. This will definitely help learners to facilitate their enhanced learning based on their interest.

Dr. S. K. Ukarande
Associate Dean
Faculty of Science and Technology
University of Mumbai

Dr Anuradha Muzumdar
Dean
Faculty of Science and Technology
University of Mumbai

Vishwaniketan iMEET E.N. 3467

TRUE COPY

Principal
Vishwaniketan's (i MEET)

Preface

The engineering education in India is expanding and is set to increase manifold. The major challenge in the current scenario is to ensure quality to the stakeholders along with expansion. To meet this challenge, the issue of quality needs to be addressed, debated and taken forward in a systematic manner. Accreditation is the principal means of quality assurance in higher education and reflects the fact that in achieving recognition, the institution or program of study is committed and open to external review to meet certain minimum specified standards. The major emphasis of this accreditation process is to measure the outcomes of the program that is being accredited. Program Outcomes (POs) are essentially a range of skills and knowledge that a student will have at the time of graduation from the program. In line with this, Faculty of Technology of University of Mumbai has taken a lead in incorporating the philosophy of outcome based education (OBE) in the process of curriculum development from Rev-2012 onwards and continued to enhance the curriculum further based on OBE in Rev-2016 and Rev-2019 "C" scheme.

As Chairman and Members of Board of Studies in Civil Engineering, University of Mumbai, we are happy to state here that, the Program Educational Objectives (PEOs) for Undergraduate Program were finalized in a brain storming sessions, which was attended by more than 40 members from different affiliated Institutes of the University, who are either Heads of Departments or their senior representatives from the Department of Civil Engineering. The PEOs finalized for the undergraduate program in Civil Engineering are listed below;

1. To prepare the Learner with a sound foundation in mathematical, scientific and engineering fundamentals
2. To motivate the Learner in the art of self-learning and to use modern tools for solving real life problems
3. To prepare the Learner for a successful career in Indian and Multinational Organisations and for excelling in post-gradute studies
4. To motivate learners for life-longing learning
5. To inculcate a professional and ethical attitude, good leadership qualities and commitment to social responsibilities in the Learner's thought process

In addition to the above listed PEOs, every institute is encouraged to add a few (2-3) more PEOs suiting their institute vision and mission

Apart from the PEOs, for each course of the program, objectives and expected outcomes from a learner's point of view are also included in the curriculum to support the philosophy of OBE. We strongly believe that even a small step taken in the right direction will definitely help in providing quality education to the major stakeholders.

Board of Studies in Civil Engineering, University of Mumbai

1. Dr. S. K. Ukarande:	Chairman
2. Dr. K. K. Sangle:	Member
3. Dr. S. B. Charhate:	Member
4. Dr. A. R. Kambekar:	Member
5. Dr. R. B. Magar:	Member
6. Dr. Seema Jagtap:	Member

TRUE COPY

Principal
Vishwaniketan's (i MEET)

Item No. - 124
AC- 23/7/2020

UNIVERSITY OF MUMBAI

Bachelor of Engineering

in

Electrical Engineering

Second Year with Effect from AY 2020-21

Third Year with Effect from AY 2021-22

Final Year with Effect from AY 2022-23

(REV- 2019 'C' Scheme) from Academic Year 2019 – 20

Under

FACULTY OF SCIENCE & TECHNOLOGY

(As per AICTE guidelines with effect from the academic year 2019–2020)

Item No. - 124
AC- 23/7/2020

UNIVERSITY OF MUMBAI

Syllabus for Approval

Sr. No.	Heading	Particulars
1	Title of the Course	**Second Year B.E. Electrical Engineering**
2	Eligibility for Admission	**After Passing First Year Engineering as per the Ordinance 0.6242**
3	Passing Marks	**40%**
4	Ordinances / Regulations (if any)	**Ordinance 0.6242**
5	No. of Years / Semesters	**8 semesters**
6	Level	~~P.G.~~ / **U.G.**/ ~~Diploma / Certificate~~ (Strike out which is not applicable)
7	Pattern	~~Yearly~~ / **Semester** (Strike out which is not applicable)
8	Status	**New** / ~~Revised~~ (Strike out which is not applicable)
9	To be implemented from Academic Year	**With effect from Academic Year: 2020-2021**

Date

Dr. S. K. Ukarande
Associate Dean, Faculty of Science and Technology
University of Mumbai

Dr Anuradha Muzumdar
Dean, Faculty of Science and Technology
University of Mumbai

TRUE COPY

Vishwaniketan iMEET E.N. 3467

Principal
Vishwaniketan's iMEET

Preamble

To meet the challenge of ensuring excellence in engineering education, the issue of quality needs to be addressed, debated and taken forward in a systematic manner. Accreditation is the principal means of quality assurance in higher education. The major emphasis of accreditation process is to measure the outcomes of the program that is being accredited. In line with this Faculty of Science and Technology (in particular Engineering) of University of Mumbai has taken a lead in incorporating philosophy of outcome based education in the process of curriculum development.

Faculty resolved that course objectives and course outcomes are to be clearly defined for each course, so that all faculty members in affiliated institutes understand the depth and approach of course to be taught, which will enhance learner's learning process. Choice based Credit and grading system enables a much-required shift in focus from teacher-centric to learner-centric education since the workload estimated is based on the investment of time in learning and not in teaching. It also focuses on continuous evaluation which will enhance the quality of education. Credit assignment for courses is based on 15 weeks teaching learning process, however content of courses is to be taught in 13 weeks and remaining 2 weeks to be utilized for revision, guest lectures, coverage of content beyond syllabus etc.

There was a concern that the earlier revised curriculum more focused on providing information and knowledge across various domains of the said program, which led to heavily loading of students in terms of direct contact hours. In this regard, faculty of science and technology resolved that to minimize the burden of contact hours, total credits of entire program will be of 170, wherein focus is not only on providing knowledge but also on building skills, attitude and self learning. Therefore in the present curriculum skill based laboratories and mini projects are made mandatory across all disciplines of engineering in second and third year of programs, which will definitely facilitate self learning of students. The overall credits and approach of curriculum proposed in the present revision is in line with AICTE model curriculum.

The present curriculum will be implemented for Second Year of Engineering from the academic year 2020-21. Subsequently this will be carried forward for Third Year and Final Year Engineering in the academic years 2021-22, 2022-23, respectively.

Dr. S. K. Ukarande
Associate Dean
Faculty of Science and Technology
University of Mumbai

Dr Anuradha Muzumdar
Dean
Faculty of Science and Technology
University of Mumbai

Vishwaniketan iMEET E.N. 3467

TRUE COPY

Principal
Vishwaniketan's (i MEET)

Incorporation and Implementation of Online Contents from NPTEL/ Swayam Platform

The curriculum revision is mainly focused on knowledge component, skill based activities and project based activities. Self learning opportunities are provided to learners. In the revision process this time in particular Revised syllabus of 'C ' scheme wherever possible additional resource links of platforms such as NPTEL, Swayam are appropriately provided. In an earlier revision of curriculum in the year 2012 and 2016 in Revised scheme 'A' and 'B' respectively, efforts were made to use online contents more appropriately as additional learning materials to enhance learning of students.

In the current revision based on the recommendation of AICTE model curriculum overall credits are reduced to 171, to provide opportunity of self learning to learner. Learners are now getting sufficient time for self learning either through online courses or additional projects for enhancing their knowledge and skill sets.

The Principals/ HoD's/ Faculties of all the institute are required to motivate and encourage learners to use additional online resources available on platforms such as NPTEL/ Swayam. Learners can be advised to take up online courses, on successful completion they are required to submit certification for the same. This will definitely help learners to facilitate their enhanced learning based on their interest.

Dr. S. K. Ukarande
Associate Dean
Faculty of Science and Technology
University of Mumbai

Dr Anuradha Muzumdar
Dean
Faculty of Science and Technology
University of Mumbai

Vishwaniketan iMEET E.N. 3467

TRUE COPY

Principal
Vishwaniketan's (i MEET)

Preface By BoS

The outcome based course curriculum for the undergraduate degree in Electrical Engineering in Rev.2019 'C' scheme has been chalked out through the thoughtful discussions and deliberations of academic and industry experts. While devising the syllabus content framework, the correct balance between the fundamental / core topics with appropriate mix of topics from the state of the art technologies in electrical and allied domains is attempted. With the increased Industry-Institute interaction and internship programs, students are encouraged to explore the opportunity to improve communication skills, problem solving skill and good team management. These skills shall surely help them to meet the future challenges in their career.

The new course curriculum will also give ample opportunity to the students to work in cross discipline domains to gain the hands on experience through the project based learning facilitated through the various skill based labs, Mini projects, Course projects , Major projects etc. The increased number of department and institute level electives shall facilitate students with the truly choice based learning and skilling in a particular domains.

On behalf of the Board of Studies (BoS) in Electrical Engineering of the University of Mumbai, we seek the active participation from all the stake holders of the engineering education to meet the set outcomes and objectives for the Undergraduate Program in Electrical Engineering.

Board of Studies in Electrical Engineering

Dr. Sushil S. Thale	**: Chairman**
Dr. B. R. Patil	**: Member**
Dr. S. R. Deore	**: Member**
Dr. B. B. Pimple	**: Member**
Dr. Nandkishor Kinhekar	**: Member**

TRUE COPY

Principal
Vishwaniketan's (i MEET)

AC: 23/7/2020

Item No. 127

UNIVERSITY OF MUMBAI

Bachelor of Engineering

in

Computer Engineering

Second Year with Effect from AY 2020-21

Third Year with Effect from AY 2021-22

Final Year with Effect from AY 2022-23

(REV- 2019 'C' Scheme) from Academic Year 2019 – 20

Under

FACULTY OF SCIENCE & TECHNOLOGY

(As per AICTE guidelines with effect from the academic year 2019–2020)

Vishwaniketan iMEET E.N. 3467

TRUE COPY

Principal
Vishwaniketan's (i MEET)

AC: 23/7/2020
Item No. 127

UNIVERSITY OF MUMBAI

Syllabus for Approval

Date

Sr. No.	Heading	Particulars
1	Title of the Course	**Second Year B.E. Computer Engineering**
2	Eligibility for Admission	**After Passing First Year Engineering as per the Ordinance 0.6242**
3	Passing Marks	**40%**
4	Ordinances / Regulations (if any)	**Ordinance 0.6242**
5	No. of Years / Semesters	**8 semesters**
6	Level	~~P.G.~~ / **U.G.**/ ~~Diploma / Certificate~~ (Strike out which is not applicable)
7	Pattern	~~Yearly~~ / **Semester** (Strike out which is not applicable)
8	Status	**New** / ~~Revised~~ (Strike out which is not applicable)
9	To be implemented from Academic Year	**With effect from Academic Year: 2020-2021**

Dr. S. K. Ukarande
Associate Dean
Faculty of Science and Technology
University of Mumbai

Dr Anuradha Muzumdar
Dean
Faculty of Science and Technology
University of Mumbai

TRUE COPY

Principal
Vishwaniketan's (i MEET)

Preamble

To meet the challenge of ensuring excellence in engineering education, the issue of quality needs to be addressed, debated and taken forward in a systematic manner. Accreditation is the principal means of quality assurance in higher education. The major emphasis of accreditation process is to measure the outcomes of the program that is being accredited. In line with this Faculty of Science and Technology (in particular Engineering)of University of Mumbai has taken a lead in incorporating philosophy of outcome based education in the process of curriculum development.

Faculty resolved that course objectives and course outcomes are to be clearly defined for each course, so that all faculty members in affiliated institutes understand the depth and approach of course to be taught, which will enhance learner's learning process. Choice based Credit and grading system enables a much-required shift in focus from teacher-centric to learner-centric education since the workload estimated is based on the investment of time in learning and not in teaching. It also focuses on continuous evaluation which will enhance the quality of education. Credit assignment for courses is based on 15 weeks teaching learning process, however content of courses is to be taught in 13 weeks and remaining 2 weeks to be utilized for revision, guest lectures, coverage of content beyond syllabus etc.

There was a concern that the earlier revised curriculum more focused on providing information and knowledge across various domains of the said program, which led to heavily loading of students in terms of direct contact hours. In this regard, faculty of science and technology resolved that to minimize the burden of contact hours, total credits of entire program will be of 170, wherein focus is not only on providing knowledge but also on building skills, attitude and self learning. Therefore in the present curriculum skill based laboratories and mini projects are made mandatory across all disciplines of engineering in second and third year of programs, which will definitely facilitate self learning of students. The overall credits and approach of curriculum proposed in the present revision is in line with AICTE model curriculum.

The present curriculum will be implemented for Second Year of Engineering from the academic year 2020-21. Subsequently this will be carried forward for Third Year and Final Year Engineering in the academic years 2021-22, 2022-23, respectively.

Dr. S. K. Ukarande
Associate Dean
Faculty of Science and Technology
University of Mumbai

Dr Anuradha Muzumdar
Dean
Faculty of Science and Technology
University of Mumbai

Vishwaniketan iMEET E.N. 3457

TRUE COPY

Principal
Vishwaniketan's (i MEET)

Incorporation and Implementation of Online Contents from NPTEL/ Swayam Platform

The curriculum revision is mainly focused on knowledge component, skill based activities and project based activities. Self learning opportunities are provided to learners. In the revision process this time in particular Revised syllabus of 'C ' scheme wherever possible additional resource links of platforms such as NPTEL, Swayam are appropriately provided. In an earlier revision of curriculum in the year 2012 and 2016 in Revised scheme 'A' and 'B' respectively, efforts were made to use online contents more appropriately as additional learning materials to enhance learning of students.

In the current revision based on the recommendation of AICTE model curriculum overall credits are reduced to 171, to provide opportunity of self learning to learner. Learners are now getting sufficient time for self learning either through online courses or additional projects for enhancing their knowledge and skill sets.

The Principals/ HoD's/ Faculties of all the institute are required to motivate and encourage learners to use additional online resources available on platforms such as NPTEL/ Swayam. Learners can be advised to take up online courses, on successful completion they are required to submit certification for the same. This will definitely help learners to facilitate their enhanced learning based on their interest.

Dr. S. K. Ukarande
Associate Dean
Faculty of Science and Technology
University of Mumbai

Dr Anuradha Muzumdar
Dean
Faculty of Science and Technology
University of Mumbai

Vishwaniketan iMEET E.M. 3487

TRUE COPY

Principal
Vishwaniketan's (i MEET)

Preface by Board of Studies in Computer Engineering

Dear Students and Teachers, we, the members of Board of Studies Computer Engineering, are very happy to present Second Year Computer Engineering syllabus effective from the Academic Year 2020-21 (REV-2019'C' Scheme). We are sure you will find this syllabus interesting and challenging.

Computer Engineering is one of the most sought-after courses amongst engineering students hence there is a continuous requirement of revision of syllabus. The syllabus focuses on providing a sound theoretical background as well as good practical exposure to students in the relevant areas. It is intended to provide a modern, industry-oriented education in Computer Engineering. It aims at producing trained professionals who can successfully acquainted with the demands of the industry worldwide. They obtain skills and experience in up-to-date the knowledge to analysis, design, implementation, validation, and documentation of computer software and systems.

The revised syllabus falls in line with the objectives of affiliating University, AICTE, UGC, and various accreditation agencies by keeping an eye on the technological developments, innovations, and industry requirements.

The salient features of the revised syllabus are:

1. Reduction in credits to 170 is implemented to ensure that students have more time for extracurricular activities, innovations, and research.
2. Introduction of Skill Based Lab and Mini Project to showcase their talent by doing innovative projects that strengthen their profile and increases the chance of employability.
3. Students are encouraged to take up part of course through MOOCs platform SWAYAM

We would like to place on record our gratefulness to the faculty, students, industry experts and stakeholders for having helped us in the formulation of this syllabus.

Board of Studies in Computer Engineering

Prof. Sunil Bhirud	: Chairman
Prof. Madhumita Chatterjee	: Member
Prof. Sunita Patil	: Member
Prof. Leena Raga	: Member
Prof. Subhash Shinde	: Member
Prof. Meera Narvekar	: Member
Prof. Suprtim Biswas	: Member
Prof. Sudhir Sawarkar	: Member
Prof. Dayanand Ingle	: Member
Prof. Satish Ket	: Member

TRUE COPY

Principal
Vishwaniketan's (I MEET)

Item No. 145
AC – 23/07/2020

UNIVERSITY OF MUMBAI

Bachelor of Engineering

in

Electronics and Telecommunication Engineering

Second Year with Effect from AY 2020-21

Third Year with Effect from AY 2021-22

Final Year with Effect from AY 2022-23

(REV- 2019 'C' Scheme) from Academic Year 2019 – 20

Under

FACULTY OF SCIENCE & TECHNOLOGY

(As per AICTE guidelines with effect from the academic year 2019–2020)

Item No. 145
AC – 23/07/2020

UNIVERSITY OF MUMBAI

Syllabus for Approval

Sr. No.	Heading	Particulars
1	Title of the Course	**Second Year B.E. Electronics and Telecommunication Engineering**
2	Eligibility for Admission	**After Passing First Year Engineering as per the Ordinance 0.6242**
3	Passing Marks	**40%**
4	Ordinances / Regulations (if any)	**Ordinance 0.6242**
5	No. of Years / Semesters	**8 semesters**
6	Level	~~P.G.~~ / **U.G.**/ ~~Diploma / Certificate~~ (Strike out which is not applicable)
7	Pattern	~~Yearly~~ / **Semester** (Strike out which is not applicable)
8	Status	**New** / ~~Revised~~ (Strike out which is not applicable)
9	To be implemented from Academic Year	**With effect from Academic Year: 2020-2021**

Date 02-07-2020

Dr. S. K. Ukarande
Associate Dean
Faculty of Science and Technology
University of Mumbai

Dr Anuradha Muzumdar
Dean
Faculty of Science and Technology
University of Mumbai

TRUE COPY

Principal
Vishwakarma's (i MEET)

Preamble

To meet the challenge of ensuring excellence in engineering education, the issue of quality needs to be addressed, debated and taken forward in a systematic manner. Accreditation is the principal means of quality assurance in higher education. The major emphasis of accreditation process is to measure the outcomes of the program that is being accredited. In line with this Faculty of Science and Technology (in particular Engineering)of University of Mumbai has taken a lead in incorporating philosophy of outcome based education in the process of curriculum development.

Faculty resolved that course objectives and course outcomes are to be clearly defined for each course, so that all faculty members in affiliated institutes understand the depth and approach of course to be taught, which will enhance learner's learning process. Choice based Credit and grading system enables a much-required shift in focus from teacher-centric to learner-centric education since the workload estimated is based on the investment of time in learning and not in teaching. It also focuses on continuous evaluation which will enhance the quality of education. Credit assignment for courses is based on 15 weeks teaching learning process, however content of courses is to be taught in 13 weeks and remaining 2 weeks to be utilized for revision, guest lectures, coverage of content beyond syllabus etc.

There was a concern that the earlier revised curriculum more focused on providing information and knowledge across various domains of the said program, which led to heavily loading of students in terms of direct contact hours. In this regard, faculty of science and technology resolved that to minimize the burden of contact hours, total credits of entire program will be of 171, wherein focus is not only on providing knowledge but also on building skills, attitude and self learning. Therefore in the present curriculum skill based laboratories and mini projects are made mandatory across all disciplines of engineering in second and third year of programs, which will definitely facilitate self learning of students. The overall credits and approach of curriculum proposed in the present revision is in line with AICTE model curriculum.

The present curriculum will be implemented for Second Year of Engineering from the academic year 2020-21. Subsequently this will be carried forward for Third Year and Final Year Engineering in the academic years 2021-22, 2022-23, respectively.

Dr. S. K. Ukarande
Associate Dean
Faculty of Science and Technology
University of Mumbai

Dr Anuradha Muzumdar
Dean
Faculty of Science and Technology
University of Mumbai

Vishwaniketan iMEET E.N. 3467

TRUE COPY

Principal
Vishwaniketan's (i MEET)

Incorporation and Implementation of Online Contents from NPTEL/ Swayam Platform

The curriculum revision is mainly focused on knowledge component, skill based activities and project based activities. Self learning opportunities are provided to learners. In the revision process this time in particular Revised syllabus of 'C ' scheme wherever possible additional resource links of platforms such as NPTEL, Swayam are appropriately provided. In an earlier revision of curriculum in the year 2012 and 2016 in Revised scheme 'A' and 'B' respectively, efforts were made to use online contents more appropriately as additional learning materials to enhance learning of students.

In the current revision based on the recommendation of AICTE model curriculum overall credits are reduced to 171, to provide opportunity of self learning to learner. Learners are now getting sufficient time for self learning either through online courses or additional projects for enhancing their knowledge and skill sets.

The Principals/ HoD's/ Faculties of all the institute are required to motivate and encourage learners to use additional online resources available on platforms such as NPTEL/ Swayam. Learners can be advised to take up online courses, on successful completion they are required to submit certification for the same. This will definitely help learners to facilitate their enhanced learning based on their interest.

Dr. S. K. Ukarande
Associate Dean
Faculty of Science and Technology
University of Mumbai

Dr Anuradha Muzumdar
Dean
Faculty of Science and Technology
University of Mumbai

Vishwaniketan iMEET E.N. 3467

TRUE COPY

Principal
Vishwaniketan's (i MEET)

Preface By BoS

Technological developments in the field of electronics and telecommunication engineering have revolutionized the way people see the world today. Hence, there is a need for continuously enriching the quality of education by a regular revision in the curriculum, which will help our students achieve better employability, start-ups, and other avenues of higher studies. The current revision in the Bachelor of Engineering program (REV- 2019 'C' Scheme) aims at providing a strong foundation with required analytical concepts in the field of electronics and telecommunication engineering.

Some of the salient features of this revised curriculum are as below and they fall in line with the features in AICTE Model Curriculum.

1. The curriculum is designed in such a way that it encourages innovation and research as the total number of credits has been reduced from around 200 credits in an earlier curriculum to 171 credits in the current revision.
2. In the second and third-year curriculum, skill-based laboratories and mini-projects are introduced.
3. It will result in the students developing a problem-solving approach and will be able to meet the challenges of the future.
4. The University of Mumbai and BoS – Electronics and Telecommunication Engineering will ensure the revision of the curriculum on regular basis in the future as well and this update will certainly help students to achieve better employability; start-ups and other avenues for higher studies.

The BoS would like to thank all the subject experts, industry representatives, alumni, and various other stakeholders for their sincere efforts and valuable time in the preparation of course contents, reviewing the contents, giving valuable suggestions, and critically analyzing the contents.

Board of Studies in Electronics and Telecommunication Engineering

Dr. Faruk Kazi: Chairman

Dr. V. N. Pawar: Member

Dr. Ravindra Duche: Member

Dr. Milind Shah: Member

Dr. R. K. Kulkarni: Member

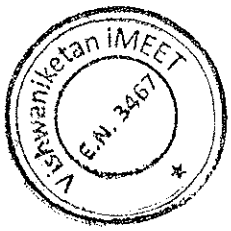
Dr. Baban U. Rindhe: Member

Dr. Mrs. Nair: Member

Dr. Nalbarwar: Member

Dr. Sudhakar Mande: Member

Dr. S. D. Deshmukh: Member



TRUE COPY

Principal
Vishwaniketan's (i MEET)

UNIVERSITY OF MUMBAI

Bachelor of Engineering

in

Mechanical Engineering

Second Year with effect from AY 2020-21

Third Year with effect from AY 2021-22

Final Year with effect from AY 2022-23

(REV- 2019 'C' Scheme) from Academic Year 2019 – 20

Under

FACULTY OF SCIENCE & TECHNOLOGY

(As per AICTE guidelines with effect from the academic year 2019–2020)

AC 23/07/2020

Item No. 119

Syllabus for Approval

Sr. No.	Heading	Particulars
1	Title of the Course	**Second Year B.E. in Mechanical Engineering**
2	Eligibility for Admission	**After Passing First Year Engineering as per the Ordinance 0.6242**
3	Passing Marks	**40%**
4	Ordinances / Regulations (if any)	**Ordinance 0.6242**
5	No. of Years / Semesters	**8 semesters**
6	Level	~~P.G.~~ / **U.G.**/ ~~Diploma / Certificate~~ (Strike out which is not applicable)
7	Pattern	~~Yearly~~ / **Semester** (Strike out which is not applicable)
8	Status	**New** / ~~Revised~~ (Strike out which is not applicable)
9	To be implemented from Academic Year	**From Academic Year: 2020-2021**

Date

Dr. S. K. Ukarande
Associate Dean
Faculty of Science and Technology
University of Mumbai

Dr Anuradha Muzumdar
Dean
Faculty of Science and Technology
University of Mumbai

TRUE COPY

Principal
Vishwaniketan's (i MEET)

Preamble

To meet the challenge of ensuring excellence in engineering education, the issue of quality needs to be addressed, debated and taken forward in a systematic manner. Accreditation is the principal means of quality assurance in higher education. The major emphasis of accreditation process is to measure the outcomes of the program that is being accredited. In line with this Faculty of Science and Technology (in particular Engineering)of University of Mumbai has taken a lead in incorporating philosophy of outcome based education in the process of curriculum development.

Faculty resolved that course objectives and course outcomes are to be clearly defined for each course, so that all faculty members in affiliated institutes understand the depth and approach of course to be taught, which will enhance learner's learning process. Choice based Credit and grading system enables a much-required shift in focus from teacher-centric to learner-centric education since the workload estimated is based on the investment of time in learning and not in teaching. It also focuses on continuous evaluation which will enhance the quality of education. Credit assignment for courses is based on 15 weeks teaching learning process, however content of courses is to be taught in 12-13 weeks and remaining 2-3 weeks to be utilized for revision, guest lectures, coverage of content beyond syllabus etc.

There was a concern that the earlier revised curriculum more focused on providing information and knowledge across various domains of the said program, which led to heavily loading of students in terms of direct contact hours. In this regard, faculty of science and technology resolved that to minimize the burden of contact hours, total credits of entire program will be of 171, wherein focus is not only on providing knowledge but also on building skills, attitude and self learning. Therefore in the present curriculum skill based laboratories and mini projects are made mandatory across all disciplines of engineering in second and third year of programs, which will definitely facilitate self learning of students. The overall credits and approach of curriculum proposed in the present revision is in line with AICTE model curriculum.

The present curriculum will be implemented for Second Year of Engineering from the academic year 2020-21. Subsequently this will be carried forward for Third Year and Final Year Engineering in the academic years 2021-22, 2022-23, respectively.

Dr. S. K. Ukarande
Associate Dean
Faculty of Science and Technology
University of Mumbai

Dr Anuradha Muzumdar
Dean
Faculty of Science and Technology
University of Mumbai

TRUE COPY

Principal
Vishwaniketan's (i MEET)

Incorporation and implementation of Online Contents from NPTEL/ Swayam Platform

The curriculum revision is mainly focused on knowledge component, skill based activities and project based activities. Self learning opportunities are provided to learners. In the revision process this time in particular Revised syllabus of 'C' scheme wherever possible additional resource links of platforms such as NPTEL, Swayam are appropriately provided. In an earlier revision of curriculum in the year 2012 and 2016 in Revised scheme 'A' and 'B' respectively, efforts were made to use online contents more appropriately as additional learning materials to enhance learning of students.

In the current revision based on the recommendation of AICTE model curriculum overall credits are reduced to 171, to provide opportunity of self learning to learner. Learners are now getting sufficient time for self learning either through online courses or additional projects for enhancing their knowledge and skill sets.

The Principals/ HoD's/ Faculties of all the institute are required to motivate and encourage learners to use additional online resources available on platforms such as NPTEL/ Swayam. Learners can be advised to take up online courses, on successful completion they are required to submit certification for the same. This will definitely help learners to facilitate their enhanced learning based on their interest.

Dr. S. K. Ukarande
Associate Dean
Faculty of Science and Technology
University of Mumbai

Dr Anuradha Muzumdar
Dean
Faculty of Science and Technology
University of Mumbai

TRUE COPY

Principal
Vishwaniketan's (i MEET)

Preface

When the entire world is discussing about 'Industry 4.0', we are at the crossroads. There are so many expectations from the graduating engineers, who shall be the major contributors to ecosystem for development of the Nation. Engineering education in India, in general, is being revamped so as to impart the theoretical knowledge along with industrial exposure. It is our attempt, when we are introducing a new curriculum; to bridge the industry-academia gap. To enable this, we have introduced components such as skill-based laboratories and project-based learning. We trust that this will allow the learner to apply knowledge gained in previous and current semesters to solve problems for gaining better understanding. What once were pure mechanical systems have now been transformed into multidisciplinary systems of mechatronics, electronics and computer science. Interdisciplinary knowledge is gaining importance as we are moving towards automated world as technology advances. Keeping this in mind the curriculum has been designed in a way so that learner shall be acquainted with many Interdisciplinary subjects.

Engineers develop new technological solutions. During the engineering design process, the responsibilities of the engineer may include defining problems, conducting and narrowing research, analyzing criteria, finding and analyzing solutions, and making decisions. The Program Educational Objectives for Undergraduate Program were finalized in a brain storming session, which was attended by several faculty members and Industry experts. The Program Educational Objectives proposed for the undergraduate program in Mechanical Engineering are listed below:

1. To prepare the stake holder to exhibit leadership qualities with demonstrable attributes in lifelong learning to contribute to the societal needs.
2. To make ready the stake holder to pursue higher education for professional development
3. To help the stake holder to acquire the analytical and technical skills, knowledge, analytical ability attitude and behavior through the program
4. To prepare the stakeholders with a sound foundation in the mathematical, scientific and engineering fundamentals
5. To motivate the learner in the art of self-learning and to use modern tools for solving real life problems and also inculcate a professional and ethical attitude and good leadership qualities
6. To prepare the stake holder to able to Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

We trust this revised version of syllabus come up to the expectations of all stakeholders. We trust this revised version of syllabus come up to the expectations of all stakeholders. We wish to place on record our sincere thanks and appreciations to the various contributors from the academia and industry for their most learned inputs in framing this syllabus.

Board of Studies in Mechanical Engineering

Dr. Vivek K. Sunnapwar	: Chairman
Dr. S. M. Khot	: Member
Dr. V. M. Phalle	: Member
Dr. Siddappa Bhusnoor	: Member
Dr. S.S. Pawar	: Member
Dr. Sanjay U. Bokade	: Member
Dr. Dhanraj Tambuskar	: Member

TRUE COPY

Principal
Vishwaniketan's (i MEET)

AC-29/06/2021
Item No.-6.2

UNIVERSITY OF MUMBAI

Bachelor of Engineering

in

Civil Engineering

Second Year with Effect from AY 2020-2021

Third Year with Effect from AY 2021-2022

Final Year with Effect from AY 2022-2023

(REV-2019 'C' Scheme) from Academic Year 2019-2020

Under

FACULTY OF SCIENCE & TECHNOLOGY

TRUE COPY

(As per AICTE guidelines with effect from the academic year 2019-2020)

Principal
Vishwakarma's (i MEET)

Syllabus for Approval

Title of the Course	:	Third Year in Bachelor of Civil Engineering
Eligibility for Admission	:	After Passing First Year Engineering as per the Ordinance 0.6242
Passing Marks	:	40%
Ordinances / Regulations (if any)	:	Ordinance 0.6242
No. of Years / Semesters	:	8 semesters
Level	:	Under Graduation
Pattern	:	Semester
Status	:	New
To be implemented from Academic Year	:	With effect from Academic Year: 2021-2022

Dr. S. K. Ukarande
Associate Dean
Faculty of Science and Technology,
University of Mumbai, Mumbai

Dr Anuradha Muzumdar
Dean
Faculty of Science and Technology,
University of Mumbai, Mumbai

TRUE COPY

Principal
Vishwaniketan's (i MEET)

Preamble

To meet the challenge of ensuring excellence in engineering education, the issue of quality needs to be addressed, debated and taken forward in a systematic manner. Accreditation is the principal means of quality assurance in higher education. The major emphasis of accreditation process is to measure the outcomes of the program that is being accredited. In line with this Faculty of Science and Technology (in particular Engineering) of University of Mumbai has taken a lead in incorporating philosophy of outcome based education in the process of curriculum development.

Faculty resolved that course objectives and course outcomes are to be clearly defined for each course, so that all faculty members in affiliated institutes understand the depth and approach of course to be taught, which will enhance learner's learning process. Choice based Credit and grading system enables a much-required shift in focus from teacher-centric to learner-centric education since the workload estimated is based on the investment of time in learning and not in teaching. It also focuses on continuous evaluation which will enhance the quality of education. Credit assignment for courses is based on 15 weeks teaching learning process, however content of courses is to be taught in 13 weeks and remaining 2 weeks to be utilized for revision, guest lectures, coverage of content beyond syllabus etc.

There was a concern that the earlier revised curriculum more focused on providing information and knowledge across various domains of the said program, which led to heavily loading of students in terms of direct contact hours. In this regard, faculty of science and technology resolved that to minimize the burden of contact hours, total credits of entire program will be of 170, wherein focus is not only on providing knowledge but also on building skills, attitude and self learning. Therefore in the present curriculum skill based laboratories and mini projects are made mandatory across all disciplines of engineering in second and third year of programs, which will definitely facilitate self learning of students. The overall credits and approach of curriculum proposed in the present revision is in line with AICTE model curriculum.

The present curriculum will be implemented for Third Year of Engineering from the Academic year 2021-22. Subsequently this will be carried forward for Final Year Engineering in the academic years 2022-23.

Dr. S. K. Ukarande
Associate Dean
Faculty of Science and Technology,
University of Mumbai, Mumbai

Dr Anuradha Muzumdar
Dean
Faculty of Science and Technology,
University of Mumbai, Mumbai

Incorporation and Implementation of Online Contents from NPTEL/ Swayam Platform

The curriculum revision is mainly focused on knowledge component, skill-based activities and project-based activities. Self-learning opportunities are provided to learners. In the revision process this time in particular Revised syllabus of 'C' scheme wherever possible additional resource links of platforms such as NPTEL, Swayam are appropriately provided. In an earlier revision of curriculum in the year 2012 and 2016 in Revised scheme 'A' and 'B' respectively, efforts were made to use online contents more appropriately as additional learning materials to enhance learning of students.

In the current revision based on the recommendation of AICTE model curriculum overall credits are reduced to 171, to provide opportunity of self-learning to learner. Learners are now getting sufficient time for self-learning either through online courses or additional projects for enhancing their knowledge and skill sets.

The Principals/ HoD's/ Faculties of all the institute are required to motivate and encourage learners to use additional online resources available on platforms such as NPTEL/ Swayam. Learners can be advised to take up online courses, on successful completion they are required to submit certification for the same. This will definitely help learners to facilitate their enhanced learning based on their interest.

Dr. S. K. Ukarande

Associate Dean
Faculty of Science and Technology,
University of Mumbai, Mumbai

Dr Anuradha Muzumdar

Dean
Faculty of Science and Technology,
University of Mumbai, Mumbai

TRUE COPY

Principal
Vishwaniketan's (i MEET)

Preface

The engineering education in India is expanding and is set to increase manifold. The major challenge in the current scenario is to ensure quality to the stakeholders along with expansion. To meet this challenge, the issue of quality needs to be addressed, debated and taken forward in a systematic manner. Accreditation is the principal means of quality assurance in higher education and reflects the fact that in achieving recognition, the institution or program of study is committed and open to external review to meet certain minimum specified standards. The major emphasis of this accreditation process is to measure the outcomes of the program that is being accredited. Program Outcomes (POs) are essentially a range of skills and knowledge that a student will have at the time of graduation from the program. In line with this, Faculty of Technology of University of Mumbai has taken a lead in incorporating the philosophy of outcome-based education (OBE) in the process of curriculum development from Rev-2012 onwards and continued to enhance the curriculum further based on OBE in Rev-2016 and Rev-2019 "C" scheme.

As Chairman and Members of Board of Studies in Civil Engineering, University of Mumbai, we are happy to state here that, the Program Educational Objectives (PEOs) for Undergraduate Program were finalized in a brain storming session, which was attended by more than 40 members from different affiliated Institutes of the University, who are either Heads of Departments or their senior representatives from the Department of Civil Engineering. The PEOs finalized for the undergraduate program in Civil Engineering are listed below;

1. To prepare the Learner with a sound foundation in mathematical, scientific and engineering fundamentals
2. To motivate the Learner in the art of self-learning and to use modern tools for solving real life problems
3. To prepare the Learner for a successful career in Indian and Multinational Organisations and for excelling in post-graduate studies
4. To motivate learners for life-long learning
5. To inculcate a professional and ethical attitude, good leadership qualities and commitment to social responsibilities in the Learner's thought process

In addition to the above listed PEOs, every institute is encouraged to add a few (2-3) more PEOs suiting their institute vision and mission

Apart from the PEOs, for each course of the program, objectives and expected outcomes from a learner's point of view are also included in the curriculum to support the philosophy of OBE. We strongly believe that even a small step taken in the right direction will definitely help in providing quality education to the major stakeholders.

Board of Studies in Civil Engineering University of Mumbai			
Dr. S. K. Ukarande	Chairman	Dr. V. Jothiprakash	Member
Dr. D.D. Sarode	Member	Dr. K. K. Sangle	Member
Dr. S. B. Charhate	Member	Dr. D. G. Regulawar	Member
Dr. Milind Waikar	Member	Dr. A. R. Kambekar	Member
Dr. R.B. Magar	Member	Dr. Seema Jagtap	Member

AC: 29/06/2021

Item No: 6.15

UNIVERSITY OF MUMBAI

Bachelor of Engineering

in

Computer Engineering

Second Year with Effect from AY 2020-21

Third Year with Effect from AY 2021-22

Final Year with Effect from AY 2022-23

(REV- 2019 'C' Scheme) from Academic Year 2019 – 20

Under

FACULTY OF SCIENCE & TECHNOLOGY

(As per AICTE guidelines with effect from the academic year 2019–2020)

AC: 29/06/2021

Item No: 6.15

UNIVERSITY OF MUMBAI

Sr. No.	Heading	Particulars
1	Title of the Course	**Third Year Engineering (Computer Engineering)**
2	Eligibility for Admission	**After Passing Second Year Engineering as per the Ordinance 0.6243**
3	Passing Marks	**40%**
4	Ordinances / Regulations (if any)	**Ordinance 0.6243**
5	No. of Years / Semesters	**8 semesters**
6	Level	~~P.G.~~ / **U.G.**/ ~~Diploma / Certificate~~ (Strike out which is not applicable)
7	Pattern	~~Yearly~~ / **Semester** (Strike out which is not applicable)
8	Status	~~New~~ / Revised (Strike out which is not applicable)
9	To be implemented from Academic Year	**With effect from Academic Year: 2021-2022**

Dr. S. K. Ukarande
Associate Dean
Faculty of Science and Technology
University of Mumbai

Dr Anuradha Muzumdar
Dean
Faculty of Science and Technology
University of Mumbai

TRUE COPY

Principal
Vishwaniketan's (i MEET)

Preamble

To meet the challenge of ensuring excellence in engineering education, the issue of quality needs to be addressed, debated and taken forward in a systematic manner. Accreditation is the principal means of quality assurance in higher education. The major emphasis of accreditation process is to measure the outcomes of the program that is being accredited. In line with this Faculty of Science and Technology (in particular Engineering) of University of Mumbai has taken a lead in incorporating philosophy of outcome based education in the process of curriculum development.

Faculty resolved that course objectives and course outcomes are to be clearly defined for each course, so that all faculty members in affiliated institutes understand the depth and approach of course to be taught, which will enhance learner's learning process. Choice based Credit and grading system enables a much-required shift in focus from teacher-centric to learner-centric education since the workload estimated is based on the investment of time in learning and not in teaching. It also focuses on continuous evaluation which will enhance the quality of education. Credit assignment for courses is based on 15 weeks teaching learning process, however content of courses is to be taught in 13 weeks and remaining 2 weeks to be utilized for revision, guest lectures, coverage of content beyond syllabus etc.

There was a concern that the earlier revised curriculum more focused on providing information and knowledge across various domains of the said program, which led to heavily loading of students in terms of direct contact hours. In this regard, faculty of science and technology resolved that to minimize the burden of contact hours, total credits of entire program will be of 170, wherein focus is not only on providing knowledge but also on building skills, attitude and self learning. Therefore in the present curriculum skill based laboratories and mini projects are made mandatory across all disciplines of engineering in second and third year of programs, which will definitely facilitate self learning of students. The overall credits and approach of curriculum proposed in the present revision is in line with AICTE model curriculum.

The present curriculum will be implemented for Second Year of Engineering from the academic year 2021-22. Subsequently this will be carried forward for Third Year and Final Year Engineering in the academic years 2022-23, 2023-24, respectively.

Dr. S. K. Ukarande
Associate Dean
Faculty of Science and Technology
University of Mumbai

Dr Anuradha Muzumdar
Dean
Faculty of Science and Technology
University of Mumbai

Vishwaniketan iMEET E.N. 3467

TRUE COPY

Principal
Vishwaniketan's (i MEET)

ncorporation and Implementation of Online Contents from NPTEL/ Swayam Platform

The curriculum revision is mainly focused on knowledge component, skill based activities and project based activities. Self learning opportunities are provided to learners. In the revision process this time in particular Revised syllabus of 'C' scheme wherever possible additional resource links of platforms such as NPTEL, Swayam are appropriately provided. In an earlier revision of curriculum in the year 2012 and 2016 in Revised scheme 'A' and 'B' respectively, efforts were made to use online contents more appropriately as additional learning materials to enhance learning of students.

In the current revision based on the recommendation of AICTE model curriculum overall credits are reduced to 171, to provide opportunity of self learning to learner. Learners are now getting sufficient time for self learning either through online courses or additional projects for enhancing their knowledge and skill sets.

The Principals/ HoD's/ Faculties of all the institute are required to motivate and encourage learners to use additional online resources available on platforms such as NPTEL/ Swayam. Learners can be advised to take up online courses, on successful completion they are required to submit certification for the same. This will definitely help learners to facilitate their enhanced learning based on their interest.

Dr. S. K. Ukarande
Associate Dean
Faculty of Science and Technology
University of Mumbai

Dr Anuradha Muzumdar
Dean
Faculty of Science and Technology
University of Mumbai

Vishwaniketan iMEET E.N. 3467

TRUE COPY

Principal
Vishwaniketan's (i MEET)

Preface by Board of Studies in Computer Engineering

Dear Students and Teachers, we, the members of Board of Studies Computer Engineering, are very happy to present Third Year Computer Engineering syllabus effective from the Academic Year 2021-22 (REV-2019'C' Scheme). We are sure you will find this syllabus interesting, challenging, fulfill certain needs and expectations.

Computer Engineering is one of the most sought-after courses amongst engineering students. The syllabus needs revision in terms of preparing the student for the professional scenario relevant and suitable to cater the needs of industry in present day context. The syllabus focuses on providing a sound theoretical background as well as good practical exposure to students in the relevant areas. It is intended to provide a modern, industry-oriented education in Computer Engineering. It aims at producing trained professionals who can successfully acquainted with the demands of the industry worldwide. They obtain skills and experience in up-to-date the knowledge to analysis, design, implementation, validation, and documentation of computer software and systems.

The revised syllabus is finalized through a brain storming session attended by Heads of Departments or senior faculty from the Department of Computer Engineering of the affiliated Institutes of the Mumbai University. The syllabus falls in line with the objectives of affiliating University, AICTE, UGC, and various accreditation agencies by keeping an eye on the technological developments, innovations, and industry requirements.

The salient features of the revised syllabus are:

1. Reduction in credits to 170 is implemented to ensure that students have more time for extracurricular activities, innovations, and research.
2. The department Optional Courses will provide the relevant specialization within the branch to a student.
3. Introduction of Skill Based Lab and Mini Project to showcase their talent by doing innovative projects that strengthen their profile and increases the chance of employability.
4. Students are encouraged to take up part of course through MOOCs platform SWAYAM

We would like to place on record our gratefulness to the faculty, students, industry experts and stakeholders for having helped us in the formulation of this syllabus.

Board of Studies in Computer Engineering

Prof. Sunil Bhirud	: Chairman
Prof. Sunita Patil	: Member
Prof. Leena Raga	: Member
Prof. Subhash Shinde	: Member
Prof. Meera Narvekar	: Member
Prof. Suprtim Biswas	: Member
Prof. Sudhir Sawarkar	: Member
Prof. Dayanand Ingle	: Member
Prof. Satish Ket	: Member

Program Structure for Third Year Computer Engineering

UNIVERSITY OF MUMBAI (With Effect from 2021-2022)

Semester V

Course Code	Course Name	Teaching Scheme (Contact Hours)		Credits Assigned		
		Theory	Pract.	Theory	Pract.	Total
CSC501	Theoretical Computer Science	3	--	3	--	3
CSC502	Software Engineering	3	--	3		3
CSC503	Computer Network	3	--	3	--	3
CSC504	Data Warehousing & Mining	3	--	3	--	3
CSDLO501x	Department Level Optional Course- 1	3	--	3	--	3
CSL501	Software Engineering Lab	--	2	--	1	1
CSL502	Computer Network Lab	--	2	--	1	1
CSL503	Data Warehousing & Mining Lab	--	2	--	1	1
CSL504	Business Comm. & Ethics II	--	2*+2	--	2	2
CSM501	Mini Project: 2 A	--	4$	--	2	2
Total		**15**	**14**	**15**	**07**	**22**

Course Code	Course Name	Examination Scheme							
		Theory					Term Work	Pract &oral	Total
		Internal Assessment			End Sem Exam	Exam. Duration (in Hrs)			
		Test 1	Test 2	Avg					
CSC501	Theoretical Computer Science	20	20	20	80	3	25	--	125
CSC502	Software Engineering	20	20	20	80	3	--	--	100
CSC503	Computer Network	20	20	20	80	3	--	--	100
CSC504	Data Warehousing & Mining	20	20	20	80	3	--	--	100
CSDLO501x	Department Level Optional Course -1	20	20	20	80	3	--	--	100
CSL501	Software Engineering Lab	--	--	--	--	--	25	25	50
CSL502	Computer Network Lab	--	--	--	--	--	25	25	50
CSL503	Data Warehousing & Mining Lab	--	--	--	--	--	25	25	50
CSL504	Business Comm. & Ethics II	--	--	--	--	--	50	--	50
CSM501	Mini Project : 2A	--	--	--	--	--	25	25	50
	Total	**--**	**--**	**100**	**400**	**--**	**175**	**100**	**775**

*Theory class to be conducted for full class and $ indicates workload of Learner (Not Faculty), students can form groups with minimum 2(Two) and not more than 4(Four). Faculty Load: 1hour per week per four groups

Vishwaniketan iMEET

TRUE COPY

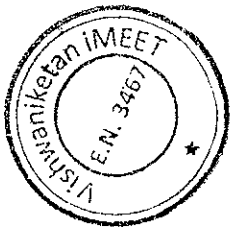
Principal
Vishwaniketan's (i MEET)

Program Structure for Computer Engineering

UNIVERSITY OF MUMBAI (With Effect from 2021-2022)

Department Optional Courses

Department Level Optional Courses	Semester	Code & Course
Department Level Optional Course -1	V	CSDLO5011: Probabilistic Graphical Models CSDLO5012: Internet Programming CSDLO5013: Advance Database Management System



TRUE COPY

Principal
Vishwaniketan's (i MEET)

AC 29/6/2021
Item No. 6.5

UNIVERSITY OF MUMBAI

Bachelor of Engineering

in

Electronics and Telecommunication Engineering

Second Year with Effect from AY 2020-21

Third Year with Effect from AY 2021-22

Final Year with Effect from AY 2022-23

(REV- 2019 'C' Scheme) from Academic Year 2019 – 20

Under

FACULTY OF SCIENCE & TECHNOLOGY

(As per AICTE guidelines with effect from the academic year 2019–2020)

TRUE COPY

Principal

AC 29/6/2021
Item No. 6.5

UNIVERSITY OF MUMBAI

Syllabus for Approval

Sr. No.	Heading	Particulars
1	Title of the Course	Third Year in Bachelor of Electronics and Telecommunication Engineering
2	Eligibility for Admission	After Passing Second Year Engineering as per the Ordinance 0.6243
3	Passing Marks	40%
4	Ordinances / Regulations (if any)	Ordinance 0.6243
5	No. of Years / Semesters	8 semesters
6	Level	~~P.G.~~ / U.G./ ~~Diploma / Certificate~~ (Strike out which is not applicable)
7	Pattern	~~Yearly~~ / Semester (Strike out which is not applicable)
8	Status	~~New~~ / Revised (Strike out which is not applicable)
9	To be implemented from Academic Year	With effect from Academic Year: 2021-2022

Date **29-06-2021**

Dr. S. K. Ukarande
Associate Dean
Faculty of Science and Technology
University of Mumbai

Dr Anuradha Muzumdar
Dean
Faculty of Science and Technology
University of Mumbai

TRUE COPY

Principal
Vishwaniketan's (i MEET)

Preamble

To meet the challenge of ensuring excellence in engineering education, the issue of quality needs to be addressed, debated and taken forward in a systematic manner. Accreditation is the principal means of quality assurance in higher education. The major emphasis of accreditation process is to measure the outcomes of the program that is being accredited. In line with this Faculty of Science and Technology (in particular Engineering)of University of Mumbai has taken a lead in incorporating philosophy of outcome based education in the process of curriculum development.

Faculty resolved that course objectives and course outcomes are to be clearly defined for each course, so that all faculty members in affiliated institutes understand the depth and approach of course to be taught, which will enhance learner's learning process. Choice based Credit and grading system enables a much-required shift in focus from teacher-centric to learner-centric education since the workload estimated is based on the investment of time in learning and not in teaching. It also focuses on continuous evaluation which will enhance the quality of education. Credit assignment for courses is based on 15 weeks teaching learning process, however content of courses is to be taught in 13 weeks and remaining 2 weeks to be utilized for revision, guest lectures, coverage of content beyond syllabus etc.

There was a concern that the earlier revised curriculum more focused on providing information and knowledge across various domains of the said program, which led to heavily loading of students in terms of direct contact hours. In this regard, faculty of science and technology resolved that to minimize the burden of contact hours, total credits of entire program will be of 171, wherein focus is not only on providing knowledge but also on building skills, attitude and self learning. Therefore in the present curriculum skill based laboratories and mini projects are made mandatory across all disciplines of engineering in second and third year of programs, which will definitely facilitate self learning of students. The overall credits and approach of curriculum proposed in the present revision is in line with AICTE model curriculum.

The present curriculum will be implemented for Second Year of Engineering from the academic year 2020-21. Subsequently this will be carried forward for Third Year and Final Year Engineering in the academic years 2021-22, 2022-23, respectively.

Dr. S. K. Ukarande
Associate Dean
Faculty of Science and Technology
University of Mumbai

Dr Anuradha Muzumdar
Dean
Faculty of Science and Technology
University of Mumbai

TRUE COPY

Principal
Vishwaniketan's (i MEET)

Incorporation and Implementation of Online Contents from NPTEL/ Swayam Platform

The curriculum revision is mainly focused on knowledge component, skill based activities and project based activities. Self learning opportunities are provided to learners. In the revision process this time in particular Revised syllabus of 'C ' scheme wherever possible additional resource links of platforms such as NPTEL, Swayam are appropriately provided. In an earlier revision of curriculum in the year 2012 and 2016 in Revised scheme 'A' and 'B' respectively, efforts were made to use online contents more appropriately as additional learning materials to enhance learning of students.

In the current revision based on the recommendation of AICTE model curriculum overall credits are reduced to 171, to provide opportunity of self learning to learner. Learners are now getting sufficient time for self learning either through online courses or additional projects for enhancing their knowledge and skill sets.

The Principals/ HoD's/ Faculties of all the institute are required to motivate and encourage learners to use additional online resources available on platforms such as NPTEL/ Swayam. Learners can be advised to take up online courses, on successful completion they are required to submit certification for the same. This will definitely help learners to facilitate their enhanced learning based on their interest.

Dr. S. K. Ukarande
Associate Dean
Faculty of Science and Technology
University of Mumbai

Dr Anuradha Muzumdar
Dean
Faculty of Science and Technology
University of Mumbai

TRUE COPY

Principal
Vishwaniketan's (i MEET)

Preface By BoS

Technological developments in the field of electronics and telecommunication engineering have revolutionized the way people see the world today. Hence, there is a need for continuously enriching the quality of education by a regular revision in the curriculum, which will help our students achieve better employability, start-ups, and other avenues of higher studies. The current revision in the Bachelor of Engineering program (REV- 2019 'C' Scheme) aims at providing a strong foundation with required analytical concepts in the field of electronics and telecommunication engineering.

Some of the salient features of this revised curriculum are as below and they fall in line with the features in AICTE Model Curriculum.

1. The curriculum is designed in such a way that it encourages innovation and research as the total number of credits has been reduced from around 200 credits in an earlier curriculum to 171 credits in the current revision.
2. In the second and third-year curriculum, skill-based laboratories and mini-projects are introduced.
3. It will result in the students developing a problem-solving approach and will be able to meet the challenges of the future.
4. The University of Mumbai and BoS – Electronics and Telecommunication Engineering will ensure the revision of the curriculum on regular basis in the future as well and this update will certainly help students to achieve better employability; start-ups and other avenues for higher studies.

The BoS would like to thank all the subject experts, industry representatives, alumni, and various other stakeholders for their sincere efforts and valuable time in the preparation of course contents, reviewing the contents, giving valuable suggestions, and critically analyzing the contents.

Board of Studies in Electronics and Telecommunication Engineering

Dr. Faruk Kazi: Chairman

Dr. V. N. Pawar: Member

Dr. Ravindra Duche: Member

Dr. Milind Shah: Member

Dr. R. K. Kulkarni: Member

Dr. Baban U. Rindhe: Member

Dr. Mrs. Nair: Member

Dr. Nalbarwar: Member

Dr. Sudhakar Mande: Member

Dr. S. D. Deshmukh: Member

TRUE COPY

Principal
Vishwaniketan's iMEET

AC- 29/6/2021
Item No.- 6.4

UNIVERSITY OF MUMBAI

Bachelor of Engineering

in

Electrical Engineering

Third Year with Effect from AY 2021-22

(REV- 2019 'C' Scheme) from Academic Year 2019 – 20

Under

FACULTY OF SCIENCE & TECHNOLOGY

(As per AICTE guidelines with effect from the academic year 2019–2020)

Vishwaniketan iMEET E.N. 3463

TRUE COPY

Principal
Vishwaniketan's (i MEET)

AC: 29/6/2021
Item No.-6.4

UNIVERSITY OF MUMBAI

Syllabus for Approval

Sr. No.	Heading	Particulars
1	Title of the Course	**Third Year in Bachelor of Electrical Engineering**
2	Eligibility for Admission	**After Passing Second Year Engineering as per the Ordinance 0.6243**
3	Passing Marks	**40%**
4	Ordinances / Regulations (if any)	**Ordinance 0.6243**
5	No. of Years / Semesters	**8 semesters**
6	Level	**Under Graduation**
7	Pattern	**Semester**
8	Status	**Revised**
9	To be implemented from Academic Year	**With effect from Academic Year: 2021-2022**

Date:29/6/2021

Dr. S. K. Ukarande
Associate Dean, Faculty of Science and Technology
University of Mumbai

Dr Anuradha Muzumdar
Dean, Faculty of Science and Technology
University of Mumbai

TRUE COPY

Principal
Vishwaniketan's (i MEET)

Preamble

To meet the challenge of ensuring excellence in engineering education, the issue of quality needs to be addressed, debated and taken forward in a systematic manner. Accreditation is the principal means of quality assurance in higher education. The major emphasis of accreditation process is to measure the outcomes of the program that is being accredited. In line with this Faculty of Science and Technology (in particular Engineering) of University of Mumbai has taken a lead in incorporating philosophy of outcome based education in the process of curriculum development.

Faculty resolved that course objectives and course outcomes are to be clearly defined for each course, so that all faculty members in affiliated institutes understand the depth and approach of course to be taught, which will enhance learner's learning process. Choice based Credit and grading system enables a much-required shift in focus from teacher-centric to learner-centric education since the workload estimated is based on the investment of time in learning and not in teaching. It also focuses on continuous evaluation which will enhance the quality of education. Credit assignment for courses is based on 15 weeks teaching learning process, however content of courses is to be taught in 13 weeks and remaining 2 weeks to be utilized for revision, guest lectures, coverage of content beyond syllabus etc.

There was a concern that the earlier revised curriculum more focused on providing information and knowledge across various domains of the said program, which led to heavily loading of students in terms of direct contact hours. In this regard, faculty of science and technology resolved that to minimize the burden of contact hours, total credits of entire program will be of 170, wherein focus is not only on providing knowledge but also on building skills, attitude and self learning. Therefore in the present curriculum skill based laboratories and mini projects are made mandatory across all disciplines of engineering in second and third year of programs, which will definitely facilitate self learning of students. The overall credits and approach of curriculum proposed in the present revision is in line with AICTE model curriculum.

The present curriculum will be implemented for Third Year of Engineering from the academic year 2021-22. Subsequently this will be carried forward for Final Year Engineering in the academic year 2022-23.

Dr. S. K. Ukarande
Associate Dean
Faculty of Science and Technology
University of Mumbai

Dr Anuradha Muzumdar
Dean
Faculty of Science and Technology
University of Mumbai

Incorporation and Implementation of Online Contents from NPTEL/ Swayam Platform

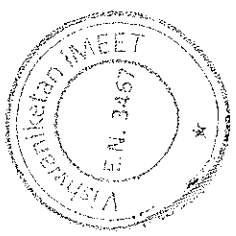
The curriculum revision is mainly focused on knowledge component, skill based activities and project based activities. Self learning opportunities are provided to learners. In the revision process this time in particular Revised syllabus of 'C ' scheme wherever possible additional resource links of platforms such as NPTEL, Swayam are appropriately provided. In an earlier revision of curriculum in the year 2012 and 2016 in Revised scheme 'A' and 'B' respectively, efforts were made to use online contents more appropriately as additional learning materials to enhance learning of students.

In the current revision based on the recommendation of AICTE model curriculum overall credits are reduced to 171, to provide opportunity of self learning to learner. Learners are now getting sufficient time for self learning either through online courses or additional projects for enhancing their knowledge and skill sets.

The Principals/ HoD's/ Faculties of all the institute are required to motivate and encourage learners to use additional online resources available on platforms such as NPTEL/ Swayam. Learners can be advised to take up online courses, on successful completion they are required to submit certification for the same. This will definitely help learners to facilitate their enhanced learning based on their interest.

Dr. S. K. Ukarande
Associate Dean
Faculty of Science and Technology
University of Mumbai

Dr Anuradha Muzumdar
Dean
Faculty of Science and Technology
University of Mumbai



TRUE COPY

Principal
Vishwakarma Institute of Technology

Preface By BoS

The outcome based course curriculum for the undergraduate degree in Electrical Engineering in Rev.2019 'C' scheme has been chalked out through the thoughtful discussions and deliberations of academic and industry experts. While devising the syllabus content framework, the correct balance between the fundamental / core topics with appropriate mix of topics from the state of the art technologies in electrical and allied domains is attempted. With the increased Industry-Institute interaction and internship programs, students are encouraged to explore the opportunity to improve communication skills, problem solving skill and good team management. These skills shall surely help them to meet the future challenges in their career.

The new course curriculum will also give ample opportunity to the students to work in cross discipline domains to gain the hands on experience through the project based learning facilitated through the various skill based labs, Mini projects, Course projects , Major projects etc. The increased number of department and institute level electives shall facilitate students with the truly choice based learning and skilling in a particular domains.

On behalf of the Board of Studies (BoS) in Electrical Engineering of the University of Mumbai, we seek the active participation from all the stake holders of the engineering education to meet the set outcomes and objectives for the Undergraduate Program in Electrical Engineering.

Board of Studies in Electrical Engineering

Dr. Sushil S. Thale	**: Chairman**
Dr. B. R. Patil	**: Member**
Dr. S. R. Deore	**: Member**
Dr. B. B. Pimple	**: Member**
Dr. Nandkishor Kinhekar	**: Member**

Vishwaniketan iMEET E.N. 3467

TRUE COPY

Principal
Vishwaniketan's (iMEET)

AC- 29/06/2021
Item No.- 6.8

UNIVERSITY OF MUMBAI

Bachelor of Engineering

in

Mechanical Engineering

Third Year with Effect from AY 2021-22

(REV- 2019 'C' Scheme) from Academic Year 2019 – 20

Under

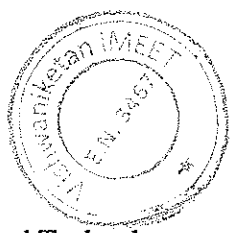
FACULTY OF SCIENCE & TECHNOLOGY

(As per AICTE guidelines with effect from the academic year 2019–2020)

Syllabus for Approval

Sr. No.	Heading	Particulars
1	Title of the Course	**Third Year B.E. in Mechanical Engineering**
2	Eligibility for Admission	**After Passing Second Year Engineering as per the Ordinance 0.6243**
3	Passing Marks	**40%**
4	Ordinances / Regulations (if any)	**Ordinance 0.6243**
5	No. of Years / Semesters	**8 semesters**
6	Level	~~P.G.~~ / **U.G.**/ ~~Diploma / Certificate~~ (Strike out which is not applicable)
7	Pattern	~~Yearly~~ / **Semester** (Strike out which is not applicable)
8	Status	~~New~~ / **Revised** (Strike out which is not applicable)
9	To be implemented from Academic Year	**2021-2022**

Date



Dr. S. K. Ukarande
Associate Dean
Faculty of Science and Technology
University of Mumbai

Dr Anuradha Muzumdar
Dean
Faculty of Science and Technology
University of Mumbai

TRUE COPY

Principal
Vishwaniketan's (I MEET)

Preamble

To meet the challenge of ensuring excellence in engineering education, the issue of quality needs to be addressed, debated and taken forward in a systematic manner. Accreditation is the principal means of quality assurance in higher education. The major emphasis of accreditation process is to measure the outcomes of the program that is being accredited. In line with this Faculty of Science and Technology (in particular Engineering)of University of Mumbai has taken a lead in incorporating philosophy of outcome based education in the process of curriculum development.

Faculty resolved that course objectives and course outcomes are to be clearly defined for each course, so that all faculty members in affiliated institutes understand the depth and approach of course to be taught, which will enhance learner's learning process. Choice based Credit and grading system enables a much-required shift in focus from teacher-centric to learner-centric education since the workload estimated is based on the investment of time in learning and not in teaching. It also focuses on continuous evaluation which will enhance the quality of education. Credit assignment for courses is based on 15 weeks teaching learning process, however content of courses is to be taught in 12-13 weeks and remaining 2-3 weeks to be utilized for revision, guest lectures, coverage of content beyond syllabus etc.

There was a concern that the earlier revised curriculum more focused on providing information and knowledge across various domains of the said program, which led to heavily loading of students in terms of direct contact hours. In this regard, faculty of science and technology resolved that to minimize the burden of contact hours, total credits of entire program will be of 171, wherein focus is not only on providing knowledge but also on building skills, attitude and self learning. Therefore in the present curriculum skill based laboratories and mini projects are made mandatory across all disciplines of engineering in second and third year of programs, which will definitely facilitate self learning of students. The overall credits and approach of curriculum proposed in the present revision is in line with AICTE model curriculum.

The present curriculum will be implemented for Second Year of Engineering from the academic year 2020-21. Subsequently this will be carried forward for Third Year and Final Year Engineering in the academic years 2021-22, 2022-23, respectively.

Dr. S. K. Ukarande
Associate Dean
Faculty of Science and Technology
University of Mumbai

Vishwaniketan iMEET E.N. 3467

Dr Anuradha Muzumdar
Dean
Faculty of Science and Technology
University of Mumbai

TRUE COPY

Principal
Vishwaniketan's iMEET

Incorporation and implementation of Online Contents from NPTEL/ Swayam Platform

The curriculum revision is mainly focused on knowledge component, skill based activities and project based activities. Self learning opportunities are provided to learners. In the revision process this time in particular Revised syllabus of 'C' Scheme wherever possible additional resource links of platforms such as NPTEL, Swayam are appropriately provided. In an earlier revision of curriculum in the year 2012 and 2016 in Revised scheme 'A' and 'B' respectively, efforts were made to use online contents more appropriately as additional learning materials to enhance learning of students.

In the current revision based on the recommendation of AICTE model curriculum overall credits are reduced to 171, to provide opportunity of self learning to learner. Learners are now getting sufficient time for self learning either through online courses or additional projects for enhancing their knowledge and skill sets.

The Principals/ HoD's/ Faculties of all the Institute are required to motivate and encourage learners to use additional online resources available on platforms such as NPTEL/ Swayam. Learners can be advised to take up online courses, on successful completion they are required to submit certification for the same. This will definitely help learners to facilitate their enhanced learning based on their interest.

Dr. S. K. Ukarande
Associate Dean
Faculty of Science and Technology
University of Mumbai

Dr Anuradha Muzumdar
Dean
Faculty of Science and Technology
University of Mumbai

TRUE COPY

Principal
Vishwaniketan's (i MEET)

Preface

When the entire world is discussing about 'Industry 4.0', we are at the crossroads. There are so many expectations from the graduating engineers, who shall be the major contributors to ecosystem for development of the Nation. Engineering education in India, in general, is being revamped so as to impart the theoretical knowledge along with industrial exposure. It is our attempt, when we are introducing a new curriculum: to bridge the industry-academia gap. To enable this, we have introduced components such as skill-based laboratories and project-based learning. We trust that this will allow the learner to apply knowledge gained in previous and current semesters to solve problems for gaining better understanding. What once were pure mechanical systems have now been transformed into multidisciplinary systems of mechatronics, electronics and computer science. Interdisciplinary knowledge is gaining importance as we are moving towards automated world as technology advances. Keeping this in mind the curriculum has been designed in a way so that learner shall be acquainted with many Interdisciplinary subjects.

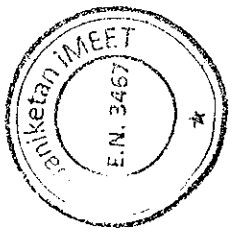
Engineers develop new technological solutions. During the engineering design process, the responsibilities of the engineer may include defining problems, conducting and narrowing research, analyzing criteria, finding and analyzing solutions, and making decisions. The Program Educational Objectives for Undergraduate Program were finalized in a brain storming session, which was attended by several faculty members and Industry experts. The Program Educational Objectives proposed for the undergraduate program in Mechanical Engineering are listed below:

1. To prepare the stake holder to exhibit leadership qualities with demonstrable attributes in lifelong learning to contribute to the societal needs.
2. To make ready the stake holder to pursue higher education for professional development
3. To help the stake holder to acquire the analytical and technical skills, knowledge, analytical ability attitude and behavior through the program
4. To prepare the stakeholders with a sound foundation in the mathematical, scientific and engineering fundamentals
5. To motivate the learner in the art of self-learning and to use modern tools for solving real life problems and also inculcate a professional and ethical attitude and good leadership qualities
6. To prepare the stake holder to able to Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

We trust this revised version of syllabus come up to the expectations of all stakeholders.We trust this revised version of syllabus come up to the expectations of all stakeholders. We wish to place on record our sincere thanks and appreciations to the various contributors from the academia and industry for their most learned inputs in framing this syllabus.

Board of Studies in Mechanical Engineering

Dr. Vivek K. Sunnapwar : Chairman
Dr. S. M. Khot : Member
Dr. V. M. Phalle : Member
Dr. Siddappa S.Bhusnoor : Member
Dr. S.S. Pawar : Member
Dr. Sanjay U. Bokade : Member
Dr. Dhanraj Tambuskar : Member

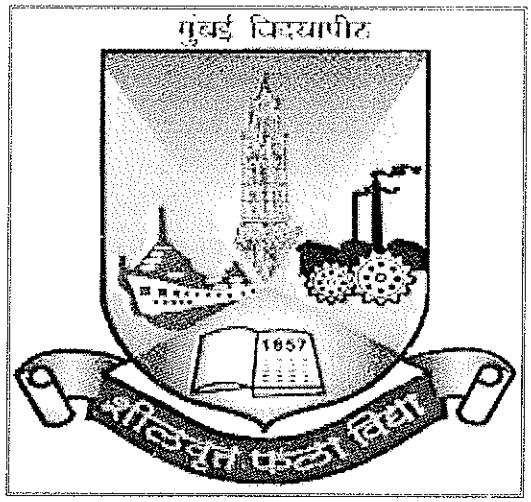


TRUE COPY

Principal
Vishwaniketan's (i MEET)

AC 5/5/2018
ITEM NO. 4.55

UNIVERSITY OF MUMBAI



Revised syllabus (Rev- 2016) from Academic Year 2016 -17

Under

FACULTY OF TECHNOLOGY

Civil Engineering

Second Year with Effect from A.Y. 2017-18

Third Year with Effect from A.Y. 2018-19

Final Year with Effect from A.Y. 2019-20

As per Choice Based Credit and Grading System

with effect from the A.Y. 2016–17

AC –

Item No.

UNIVERSITY OF MUMBAI

Revised syllabus (Rev- 2016) from Academic Year 2016 -17

Under

FACULTY OF TECHNOLOGY

Computer Engineering

Second Year with Effect from **AY 2017-18**
Third Year with Effect from **AY 2018-19**
Final Year with Effect from **AY 2019-20**

As per **Choice Based Credit and Grading System**
with effect from the AY 2016–17

Co-ordinator, Faculty of Technology's Preamble:

To meet the challenge of ensuring excellence in engineering education, the issue of quality needs to be addressed, debated and taken forward in a systematic manner. Accreditation is the principal means of quality assurance in higher education. The major emphasis of accreditation process is to measure the outcomes of the program that is being accredited. In line with this Faculty of Technology of University of Mumbai has taken a lead in incorporating philosophy of outcome based education in the process of curriculum development.

Faculty of Technology, University of Mumbai, in one of its meeting unanimously resolved that, each Board of Studies shall prepare some Program Educational Objectives (PEO's) and give freedom to affiliated Institutes to add few (PEO's). It is also resolved that course objectives and course outcomes are to be clearly defined for each course, so that all faculty members in affiliated institutes understand the depth and approach of course to be taught, which will enhance learner's learning process. It was also resolved that, maximum senior faculty from colleges and experts from industry to be involved while revising the curriculum. I am happy to state that, each Board of studies has adhered to the resolutions passed by Faculty of Technology, and developed curriculum accordingly. In addition to outcome based education, semester based credit and grading system is also introduced to ensure quality of engineering education.

Choice based Credit and Grading system enables a much-required shift in focus from teacher-centric to learner-centric education since the workload estimated is based on the investment of time in learning and not in teaching. It also focuses on continuous evaluation which will enhance the quality of education. University of Mumbai has taken a lead in implementing the system through its affiliated Institutes and Faculty of Technology has devised a transparent credit assignment policy and adopted ten points scale to grade learner's performance. Credit assignment for courses is based on 15 weeks teaching learning process, however content of courses is to be taught in 12-13 weeks and remaining 2-3 weeks to be utilized for revision, guest lectures, coverage of content beyond syllabus etc.

Choice based Credit and grading system is implemented from the academic year 2016-17 through optional courses at department and institute level. This will be effective for SE, TE and BE from academic year 2017-18, 2018-19 and 2019-20 respectively.

Dr. S. K. Ukarande
Co-ordinator,
Faculty of Technology,
Member - Academic Council
University of Mumbai, Mumbai

TRUE COPY

Principal
Vishwaniketan's (IMEFT)

Chairman's Preamble:

Engineering education in India is expanding and is set to increase manifold. The major challenge in the current scenario is to ensure quality to the stakeholders along with expansion. To meet this challenge, the issue of quality needs to be addressed, debated and taken forward in a systematic manner. Accreditation is the principal means of quality assurance in higher education and reflects the fact that in achieving recognition, the institution or program of study is committed and open to external review to meet certain minimum specified standards. The major emphasis of this accreditation process is to measure the outcomes of the program that is being accredited. Program outcomes are essentially a range of skills and knowledge that a student will have at the time of graduation from the program. In line with this Faculty of Technology of University of Mumbai has taken a lead in incorporating the philosophy of outcome based education in the process of curriculum development.

As the Chairman, Board of Studies in Computer Engineering of the University of Mumbai, I am happy to state here that, the Program Educational Objectives for Undergraduate Program were finalized in a brain storming session, which was attended by more than 85 members from different affiliated Institutes of the University. They are either Heads of Departments or their senior representatives from the Department of Computer Engineering. The Program Educational Objectives finalized for the undergraduate program in Computer Engineering are listed below;

1. To prepare the Learner with a sound foundation in the mathematical, scientific and engineering fundamentals.
2. To motivate the Learner in the art of self-learning and to use modern tools for solving real life problems.
3. To equip the Learner with broad education necessary to understand the impact of Computer Science and Engineering in a global and social context.
4. To encourage, motivate and prepare the Learner's for Lifelong- learning.
5. To inculcate professional and ethical attitude, good leadership qualities and commitment to social responsibilities in the Learner's thought process.

In addition to Program Educational Objectives, for each course of the program, objectives and expected outcomes from a learner's point of view are also included in the curriculum to support the philosophy of outcome based education. I strongly believe that even a small step taken in the right direction will definitely help in providing quality education to the major stakeholders.

Dr. Subhash K. Shinde
Chairman, Board of Studies in Computer Engineering,
University of Mumbai, Mumbai.

AC
Item No.

UNIVERSITY OF MUMBAI

Revised syllabus (Rev- 2016) from Academic Year 2016 -17

Under

FACULTY OF TECHNOLOGY

Electrical Engineering

Third Year with Effect from **AY 2018-19**

As per **Choice Based Credit and Grading System** with effect from the AY 2016–17

AC-_____
Item No. _____

UNIVERSITY OF MUMBAI

Revised syllabus (Rev- 2016) from Academic Year 2016 -17
Under

FACULTY OF TECHNOLOGY

Electronics and Telecommunication Engineering

Third Year with Effect from **AY 2018-19**
Final Year with Effect from **AY 2019-20**

As per **Choice Based Credit and Grading System**
with effect from the AY 2016–17

Co-ordinator, Faculty of Technology's Preamble:

To meet the challenge of ensuring excellence in engineering education, the issue of quality needs to be addressed, debated and taken forward in a systematic manner. Accreditation is the principal means of quality assurance in higher education. The major emphasis of accreditation process is to measure the outcomes of the program that is being accredited. In line with this Faculty of Technology of University of Mumbai has taken a lead in incorporating philosophy of outcome based education in the process of curriculum development.

Faculty of Technology, University of Mumbai, in one of its meeting unanimously resolved that, each Board of Studies shall prepare some Program Educational Objectives (PEO's) and give freedom to affiliated Institutes to add few (PEO's). It is also resolved that course objectives and course outcomes are to be clearly defined for each course, so that all faculty members in affiliated institutes understand the depth and approach of course to be taught, which will enhance learner's learning process. It was also resolved that, maximum senior faculty from colleges and experts from industry to be involved while revising the curriculum. I am happy to state that, each Board of studies has adhered to the resolutions passed by Faculty of Technology, and developed curriculum accordingly. In addition to outcome based education, semester based credit and grading system is also introduced to ensure quality of engineering education.

Choice based Credit and Grading system enables a much-required shift in focus from teacher-centric to learner-centric education since the workload estimated is based on the investment of time in learning and not in teaching. It also focuses on continuous evaluation which will enhance the quality of education. University of Mumbai has taken a lead in implementing the system through its affiliated Institutes and Faculty of Technology has devised a transparent credit assignment policy and adopted ten points scale to grade learner's performance. Credit assignment for courses is based on 15 weeks teaching learning process, however content of courses is to be taught in 12-13 weeks and remaining 2-3 weeks to be utilized for revision, guest lectures, coverage of content beyond syllabus etc.

Choice based Credit and grading system is implemented from the academic year 2016-17 through optional courses at department and institute level. This will be effective for SE, TE and BE from academic year 2017-18, 2018-19 and 2019-20 respectively.

Dr. S. K. Ukarande
Co-ordinator,
Faculty of Technology,
Member - Academic Council
University of Mumbai, Mumbai

Chairman's Preamble:

The curriculum in higher education is a living entity. It evolves with time; it reflects the ever changing needs of the society and keeps pace with the growing talent of the students and the faculty. The engineering education in India is expanding in manifolds and the main challenge is the quality of education. All stakeholders are very much concerned about it. The curriculum of Electronics & Telecommunication in Mumbai University is no exception. In keeping with the demands of the changing times, it contains innovative features. The exposure to the latest technology and tools used all over the world is given by properly selecting the subjects. It is designed in such a way to incorporate the requirements of various industries. The major emphasis of this process is to measure the outcomes of the program. Program outcomes are essentially a range of skills and knowledge that a student will have at the time of post-graduation. So the curriculum must be refined and updated to ensure that the defined objectives and outcomes are achieved.

I, as Chairman Ad-hoc Board of Studies in Electronics and Telecommunication Engineering, University of Mumbai, happy to state here that, the heads of the department and senior faculty from various institutes took timely and valuable initiative to frame the Program Educational objectives as listed below.

Objectives:

1. To produce Electronics & Telecommunication engineers, having strong theoretical foundation, good design experience and exposure to research and development.
2. To produce researcher who have clear thinking, articulation and interest to carry out theoretical and/or applied research resulting in significant advancement in the field of specialization.
3. To develop an ability to identify, formulate and solve electronics and telecommunication engineering problems in the latest technology.
4. To develop the ability among students to synthesize data and technical concepts from applications to product design.

These are the suggested and expected main objectives, individual affiliated institutes may add further in the list. I believe that the small step taken in the right direction will definitely help in providing quality education to the stake holders.

This book of curricula is the culmination of large number of faculty members and supporting staff. It also reflects the creative contribution of hundreds of teachers – both serving and retired. I sincerely hope that the faculty and students of Electronics and Telecommunication in Mumbai University will take full advantage of dynamic features of curriculum and make teaching-learning process a truly sublime experience for all.

At the end I must extend my gratitude to all experts and colleagues who contributed to make curriculum competent at par with latest technological development in the field of Electronics & Telecommunication Engineering.

Dr. Uttam D. Kolekar
Chairman, Ad-hoc Board of Studies in Electronics and Telecommunication Engineering

Principal
Vishwakarma Institute of Technology

AC 11.05.2017
Item No. 4.173

UNIVERSITY OF MUMBAI

Revised syllabus (Rev- 2016) from Academic Year 2016 -17
Under

FACULTY OF TECHNOLOGY

Mechanical Engineering

Second Year with Effect from AY 2017-18
Third Year with Effect from AY 2018-19
Final Year with Effect from AY 2019-20

As per **Choice Based Credit and Grading System**
with effect from the AY 2016–17.

TRUE COPY

Principal
Vishwaniketan's (IMEET)

E.N. 3467

Co-ordinator, Faculty of Technology Preamble:

To meet the challenge of ensuring excellence in engineering education, the issue of quality needs to be addressed, debated and taken forward in a systematic manner. Accreditation is the principal means of quality assurance in higher education. The major emphasis of accreditation process is to measure the outcomes of the program that is being accredited. In line with this Faculty of Technology of University of Mumbai has taken a lead in incorporating philosophy of outcome based education in the process of curriculum development.

Faculty of Technology, University of Mumbai, in one of its meeting unanimously resolved that, each Board of Studies shall prepare some Program Educational Objectives (PEOs) and give freedom to affiliated Institutes to add few (PEOs). It is also resolved that course objectives and course outcomes are to be clearly defined for each course, so that all faculty members in affiliated institutes understand the depth and approach of course to be taught, which will enhance learner's learning process. It was also resolved that, maximum senior faculty from colleges and experts from industry to be involved while revising the curriculum. I am happy to state that, each Board of studies has adhered to the resolutions passed by Faculty of Technology, and developed curriculum accordingly. In addition to outcome based education, semester based credit and grading system is also introduced to ensure quality of engineering education.

Choice based Credit and Grading system enables a much-required shift in focus from teacher-centric to learner-centric education since the workload estimated is based on the investment of time in learning and not in teaching. It also focuses on continuous evaluation which will enhance the quality of education. University of Mumbai has taken a lead in implementing the system through its affiliated Institutes and Faculty of Technology has devised a transparent credit assignment policy and adopted ten points scale to grade learner's performance. Credit assignment for courses is based on 15 weeks teaching learning process, however content of courses is to be taught in 12-13 weeks and remaining 2-3 weeks to be utilized for revision, guest lectures, coverage of content beyond syllabus etc.

Choice based Credit and grading system is implemented from the academic year 2016-17 through optional courses at department and institute level. This will be effective for SE, TE and BE from academic year 2017-18, 2018-19 and 2019-20 respectively.

Dr. S. K. Ukarande
Co-ordinator,
Faculty of Technology,
Member - Academic Council
University of Mumbai, Mumbai

Chairman's Preamble:

Engineering education in India is expanding and is set to increase manifold. The major challenge in the current scenario is to ensure quality to the stakeholders along with expansion. To meet this challenge, the issue of quality needs to be addressed, debated and taken forward in a systematic manner. Accreditation is the principal means of quality assurance in higher education and reflects the fact that in achieving recognition, the institution or program of study is committed and open to external review to meet certain minimum specified standards. The major emphasis of this accreditation process is to measure the outcomes of the program that is being accredited. Program outcomes are essentially a range of skills and knowledge that a student will have at the time of graduation from the program. In line with this Faculty of Technology of University of Mumbai has taken a lead in incorporating the philosophy of outcome based education in the process of curriculum development.

As the Chairman, Board of Studies in Mechanical Engineering of the University of Mumbai, I am happy to state here that, the Program Educational Objectives for Undergraduate Program were finalized in a brain storming sessions, which was attended by more than 40 members from different affiliated Institutes of the University. They are either Heads of Departments or their senior representatives from the Department of Mechanical Engineering. The Program Educational Objectives finalized for the undergraduate program in Mechanical Engineering are listed below;

1. To prepare the Learner with a sound foundation in the mathematical, scientific and engineering fundamentals
2. To motivate the Learner in the art of self-learning and to use modern tools for solving real life problems
3. To inculcate a professional and ethical attitude, good leadership qualities and commitment to social responsibilities in the Learner's thought process
4. To prepare the Learner for a successful career in Indian and Multinational Organisations

In addition to Program Educational Objectives, for each course of the program, objectives and expected outcomes from a learner's point of view are also included in the curriculum to support the philosophy of outcome based education. I strongly believe that even a small step taken in the right direction will definitely help in providing quality education to the major stakeholders.

Dr. S. M. Khot

Chairman, Board of Studies in Mechanical Engineering, University of Mumbai

Program Structure for First Year Engineering
Semester I & II
UNIVERSITY OF MUMBAI
(With Effect from 2019-2020)

Semester I

Course Code	Course Name	Teaching Scheme (Contact Hours)			Credits Assigned			
		Theory	Pract.	Tut.	Theory	Pract.	Tut.	Total
FEC101	Engineering Mathematics-I	3	--	1*	3	--	1	4
FEC102	Engineering Physics-I	2		--	2		--	2
FEC103	Engineering Chemistry-I	2	--	--	2	--	--	2
FEC104	Engineering Mechanics	3	--	--	3	--	--	3
FEC105	Basic Electrical Engineering	3	--	--	3	--	--	3
FEL101	Engineering Physics-I	--	1	--	--	0.5	--	0.5
FEL102	Engineering Chemistry-I	--	1	--	--	0.5	--	0.5
FEL103	Engineering Mechanics	--	2	--	--	1	--	1
FEL104	Basic Electrical Engineering	--	2	--	--	1	--	1
FEL105	Basic Workshop practice-I	--	2	--	--	1	--	1
Total		**13**	**08**	**01**	**13**	**04**	**01**	**18**

Course Code	Course Name	Examination Scheme							
		Theory					Term Work	Pract. /oral	Total
		Internal Assessment			End Sem. Exam.	Exam. Duration (in Hrs)			
		Test1	Test 2	Avg.					
FEC101	Engineering Mathematics-I	20	20	20	80	3	25	--	125
FEC102	Engineering Physics-I	15	15	15	60	2	--	--	75
FEC103	Engineering Chemistry-I	15	15	15	60	2	--	--	75
FEC104	Engineering Mechanics	20	20	20	80	3	--	--	100
FEC105	Basic Electrical Engineering	20	20	20	80	3	--	--	100
FEL101	Engineering Physics-I	--	--	--	--	--	25	--	25
FEL102	Engineering Chemistry-I	--	--	--	--	--	25	--	25
FEL103	Engineering Mechanics	--	--	--	--	--	25	25	50
FEL104	Basic Electrical Engineering	--	--	--	--	--	25	25	50
FEL105	Basic Workshop practice-I	--	--	--	--	--	50	--	50
Total		**--**	**--**	**90**	**360**	**--**	**175**	**50**	**675**

*** Shall be conducted batch-wise**

Semester II

Course Code	Course Name	Teaching Scheme (Contact Hours)			Credits Assigned			
		Theory	Pract.	Tut.	Theory	Pract.	Tut.	Total
FEC201	Engineering Mathematics-II	3	--	1*	3	--	1	4
FEC202	Engineering Physics-II	2	--	--	2	--	--	2
FEC203	Engineering Chemistry-II	2	--	--	2	--	--	2
FEC204	Engineering Graphics	2	--	--	2	--	--	2
FEC205	C programming	2	--	--	2	--	--	2
FEC206	Professional Communication and Ethics- I	2	--	--	2	--	--	2
FEL201	Engineering Physics-II	--	1	--	--	0.5	--	0.5
FEL202	Engineering Chemistry-II	--	1	--	--	0.5	--	0.5
FEL203	Engineering Graphics	--	4	--	--	2	--	2
FEL204	C programming	--	2	--	--	1	--	1
FEL205	Professional Communication and Ethics- I	--	2	--	--	1	--	1
FEL206	Basic Workshop practice-II	--	2	--	--	1	--	1
Total		**13**	**12**	**01**	**13**	**06**	**01**	**20**

Course Code	Course Name	Examination Scheme							
		Theory					Term Work	Pract. /oral	Total
		Internal Assessment			End Sem. Exam.	Exam. Duration (in Hrs)			
		Test1	Test 2	Avg.					
FEC201	Engineering Mathematics-II	20	20	20	80	3	25	--	125
FEC202	Engineering Physics-II	15	15	15	60	2	--	--	75
FEC203	Engineering Chemistry-II	15	15	15	60	2	--	--	75
FEC204	Engineering Graphics	15	15	15	60	3	--	--	75
FEC205	C programming	15	15	15	60	2	--	--	75
FEC206	Professional Communication and Ethics- I	10	10	10	40	2	--	--	50
FEL201	Engineering Physics-II	--	--	--	--	--	25	--	25
FEL202	Engineering Chemistry-II	--	--	--	--	--	25	--	25
FEL203	Engineering Graphics	--	--	--	--	--	25	50	75
FEL204	C programming	--	--	--	--	--	25	25	50
FEL205	Professional Communication and Ethics- I	--	--	--	--	--	25	--	25
FEL206	Basic Workshop practice-II	--	--	--	--	--	50	--	50
Total				**90**	**360**	--	**200**	**75**	**725**

*** Shall be conducted batch-wise**

Principal

Program Structure for Second Year Engineering
Semester III & IV
UNIVERSITY OF MUMBAI
(With Effect from 2020-2021)

Semester - III

Course Code	Course Name	Teaching Scheme (Contact Hours)			Credits Assigned			
		Theory	Pract.	Tut.	Theory	Pract.	Tut.	Total
CEC301	Engineering Mathematics-III	3	-	1	3	-	1	4
CEC302	Mechanics of Solids	4			4			4
CEC303	Engineering Geology	3			3			3
CEC304	Architectural Planning & Design of Buildings	2	-	-	2	-	-	2
CEC305	Fluid Mechanics- I	3	-	-	3	-	-	3
CEL301	Mechanics of Solids	-	2	-	-	1	-	1
CEL302	Engineering Geology	-	2	-	-	1	-	1
CEL303	Architectural Planning & Design of Buildings	-	2	-	-	1	-	1
CEL304	Fluid Mechanics- I	-	2	-	-	1	-	1
CEL305	Skill Based Lab Course-I		3		-	1.5		1.5
CEM301	Mini Project – 1 A	-	3[$]	-	-	1.5	-	1.5
Total		**15**	**14**	**1**	**15**	**7**	**1**	**23**

Examination Scheme

Course Code	Course Name	Internal Assessment			End Sem Exam	Exam Duration (Hrs.)-	Term Work	Prac. /Oral	Total
		Test I	Test II	Avg.					
CEC301	Engineering Mathematics-III	20	20	20	80	3	25	-	125
CEC302	Mechanics of Solids	20	20	20	80	3	-	-	100
CEC303	Engineering Geology	20	20	20	80	3	-	-	100
CEC304	Architectural Planning & Design of Buildings	20	20	20	80	3	-	-	100
CEC305	Fluid Mechanics- I	20	20	20	80	3	-	-	100
CEL301	Mechanics of Solids	-	-	-	-	-	25	25	50
CEL302	Engineering Geology	-	-	-	-	-	25	25	50
CEL303	Architectural Planning & Design of Buildings	-	-	-	-	-	25	25	50
CEL304	Fluid Mechanics- I	-	-	-	-	-	25	25	50
CEL305	Skill Based Lab Course-I	-	-	-	-	-	50	-	50
CEM301	Mini Project – 1 A	-	-	-	-	-	25	25	50
	Total			**100**	**400**	-	**200**	**125**	**825**

Principal
Vishwaniketan's (i MEET)

Semester – IV

Course Code	Course Name	Teaching Scheme (Contact Hours)			Credits Assigned			
		Theory	Pract.	Tut.	Theory	Pract.	Tut.	Total
CEC401	Engineering Mathematics - IV	3	--	1	3	-	1	4
CEC402	Structural Analysis	4	--	-	4	-	-	4
CEC403	Surveying	3	--	-	3	-	-	3
CEC404	Building Materials &Concrete Technology	3	--	-	3	-	-	3
CEC405	Fluid Mechanics-II	3	-	-	3	-	-	3
CEL 401	Structural Analysis	--	2	-	-	1	-	1
CEL 402	Surveying	--	3	-	-	1.5	-	1.5
CEL 403	Building Material Concrete Technology	--	2	-	-	1	-	1
CEL 404	Fluid Mechanics-II	--	2			1		1
CEL 405	Skill Based lab Course-II	--	2	-	-	1	-	1
CEM401	Mini Project – 1 B	--	3[$]	-	-	1.5	-	1.5
Total		**16**	**14**	**1**	**16**	**7**	**1**	**24**

Examination Scheme									
Course Code	**Course Name**	**Internal Assessment**			**End Sem Exam**	**Exam Duration (Hrs.)-**	**Term Work**	**Prac. /Oral**	**Total**
		Test I	Test II	Avg.					
CEC 401	Engineering Mathematics - IV	20	20	20	80	3	25	-	125
CEC 402	Structural Analysis	20	20	20	80	3	-	-	100
CEC 403	Surveying	20	20	20	80	3			100
CEC 404	Building Materials & Concrete Technology	20	20	20	80	3	-	-	100
CEC 405	Fluid Mechanics-II	20	20	20	80	3	-	-	100
CEL 401	Structural Analysis						25	25	50
CEL 402	Surveying						50	25	75
CEL 403	Building Materials & Concrete Technology	-	-	-	-	-	25	25	50
CEL 404	Fluid Mechanics-II	-	-	-	-	-	25	25	50
CEL 405	Skill Based lab Course-II	-	-	-	-	-	50	-	50
CEM401	Mini Project – 1 B	-	-	-	-	-	25	25	50
	Total			**100**	**400**	-	**225**	**125**	**850**

Program Structure for Second Year Computer Engineering

UNIVERSITY OF MUMBAI (With Effect from 2020-2021)

Semester III

Course Code	Course Name	Teaching Scheme (Contact Hours)			Credits Assigned			
		Theory	Pract.	Tut.	Theory	Pract.	Tut.	Total
CSC301	Engineering Mathematics-III	3	--	1*	3	--	1	4
CSC302	Discrete Structures and Graph Theory	3	--	--	3	--	--	3
CSC303	Data Structure	3	--	--	3	--	--	3
CSC304	Digital Logic & Computer Architecture	3	--	--	3	--	--	3
CSC305	Computer Graphics	3	--	--	3	--	--	3
CSL301	Data Structure Lab	--	2	--	--	1	--	1
CSL302	Digital Logic & Computer Architecture Lab	--	2	--	--	1	--	1
CSL303	Computer Graphics Lab	--	2	--	--	1	--	1
CSL304	Skill base Lab course: Object Oriented Programming with Java	--	2+2*	--	--	2	--	2
CSM301	Mini Project – 1 A	--	4$	--	--	2	--	2
Total		**15**	**14**	**1**	**15**	**07**	**1**	**23**

Course Code	Course Name	Examination Scheme							
		Theory					Term Work	Pract & oral	Total
		Internal Assessment			End Sem. Exam	Exam. Duration (in Hrs)			
		Test 1	Test2	Avg					
CSC301	Engineering Mathematics-III	20	20	20	80	3	25	--	125
CSC302	Discrete Structures and Graph Theory	20	20	20	80	3	--	--	100
CSC303	Data Structure	20	20	20	80	3	--	--	100
CSC304	Digital Logic & Computer Architecture	20	20	20	80	3	--	--	100
CSC305	Computer Graphics	20	20	20	80	3	--	--	100
CSL301	Data Structure Lab	--	--	--	--	--	25	25	50
CSL302	Digital Logic & Computer Architecture Lab	--	--	--	--	--	25	--	25
CSL303	Computer Graphics Lab	--	--	--	--	--	25	25	50
CSL304	Skill base Lab course: Object Oriented Programming with Java	--	--	--	--	--	50	25	75
CSM301	Mini Project – 1 A	--	--	--	--	--	25	25	50
Total		--	--	**100**	**400**	--	**175**	**100**	**775**

*Should be conducted batch wise and

$ indicates workload of Learner (Not Faculty), Students can form groups with minimum 2 (Two) and not more than 4 (Four), Faculty Load: 1 hour per week per four groups

Principal
Vishwakarma's (i MEET)

Program Structure for Second Year Computer Engineering

UNIVERSITY OF MUMBAI (With Effect from 2020-2021)

Semester IV

Course Code	Course Name	Teaching Scheme (Contact Hours)			Credits Assigned			
		Theory	Pract.	Tut.	Theory	Pract.	Tut.	Total
CSC401	Engineering Mathematics-IV	3	--	1*	3	--	1	4
CSC402	Analysis of Algorithm	3	--	--	3	--	--	3
CSC403	Database Management System	3	--	--	3	--	--	3
CSC404	Operating System	3	--	--	3	--	--	3
CSC405	Microprocessor	3	--	--	3	--	--	3
CSL401	Analysis of Algorithm Lab	--	2	--	--	1	--	1
CSL402	Database Management System Lab	--	2	--	--	1	--	1
CSL403	Operating System Lab	--	2	--	--	1	--	1
CSL404	Microprocessor Lab	--	2	--	--	1	--	1
CSL405	Skill Base Lab Course: Python Programming	--	2*+2	--	--	2	--	2
CSM401	Mini Project 1-B	--	4$	--	--	2	--	2
Total		**15**	**16**	**1**	**15**	**7**	**1**	**24**

Course Code	Course Name	Examination Scheme							
		Theory					Term Work	Pract & oral	Total
		Internal Assessment			End Sem. Exam.	Exam. Duration (in Hrs)			
		Test 1	Test 2	Avg.					
CSC401	Engineering Mathematics-IV	20	20	20	80	3	25	--	125
CSC402	Analysis of Algorithm	20	20	20	80	3	--	--	100
CSC403	Database Management System	20	20	20	80	3	--	--	100
CSC404	Operating System	20	20	20	80	3	--	--	100
CSC405	Microprocessor	20	20	20	80	3	--	--	100
CSL401	Analysis of Algorithm Lab	--	--	--	--	--	25	25	50
CSL402	Database Management System Lab	--	--	--	--	--	25	25	50
CSL403	Operating System Lab	--	--	--	--	--	25	25	50
CSL404	Microprocessor Lab	--	--	--	--	--	25	--	25
CSL405	Skill Base Lab Course: Python Programming	--	--	--	--	--	25	--	25
CSM401	Mini Project 1-B	--	--	--	--	--	25	25	50
Total		--	--	**100**	**400**	--	**175**	**100**	**775**

*Should be conducted batchwise and

$ indicates workload of Learner (Not Faculty), Students can form groups with minimum 2 (Two) and not more than 4 (Four); Faculty Load: 1 hour per week per four groups.

Principal
Vishwaniketan's (I MEET)

Program Structure for Second Year Electrical Engineering
(Semester III & IV)
UNIVERSITY OF MUMBAI
(With Effect from 2020-2021)

Semester III

Course Code	Course Name	Teaching Scheme (Contact Hours)			Credits Assigned			
		Theory	Pract.	Tut.	Theory	Pract.	Tut.	Total
EEC301	Engineering Mathematics-III	3	--	1	3	--	1	4
EEC302	Electrical Circuit Analysis	3		--	3		--	3
EEC303	Fundamentals of Electrical Machines & Measurements	4	--	--	4	--	--	4
EEC304	Electrical Power System I	3	--	--	3	--	--	3
EEC305	Analog Electronics	3	--	--	3	--	--	3
EEL301	Electrical Machines & Measurements Lab	--	2	--	--	1	--	1
EEL302	Electronics Lab-I	--	2	--	--	1	--	1
EEL303	Simulation Lab-I	--	2	--	--	1	--	1
EEL304	SBL-I: Applied Electrical Engineering Lab	--	4	--	--	2	--	2
EEM301	Mini Project – 1A	--	4$	--	--	2	--	2
Total		**16**	**14**	**1**	**16**	**07**	**1**	**24**

Examination Scheme

Course Code	Course Name	Theory					Term Work	Pract/ Oral	Total
		Internal Assessment			End Sem. Exam	Exam. Duration (in Hrs)			
		Test I	Test II	Avg					
EEC301	Engineering Mathematics-III	20	20	20	80	3	25	--	125
EEC302	Electrical Circuit Analysis	20	20	20	80	3	--	--	100
EEC303	Fundamentals of Electrical Machines & Measurements	20	20	20	80	3	--	--	100
EEC304	Electrical Power System-I	20	20	20	80	3	--	--	100
EEC305	Analog Electronics	20	20	20	80	3	--	--	100
EEL301	Electrical Machines & Measurements Lab	--	--	--	--	--	25	25	50
EEL302	Electronics Lab-I	--	--	--	--	--	25	25	50
EEL303	Simulation Lab-I	--	--	--	--	--	25	25	50
EEL304	SBL-I: Applied Electrical Engineering Lab	--	--	--	--	--	50	--	50
EEM301	Mini Project – 1A	--	--	--	--	--	25	25	50
Total		--	--	**100**	**400**	--	175	100	375

$ indicates work load of Learner (Not Faculty), for Mini Project

Principal
Vishwaniketan's (i MEET)

Semester IV

Course Code	Course Name	Teaching Scheme (Contact Hours)			Credits Assigned			
		Theory	Pract.	Tut.	Theory	Pract.	Tut.	Total
EEC401	Engineering Mathematics-IV	3	--	1	3	--	1	4
EEC402	Electrical AC Machines-I	3	--	--	3	--	--	3
EEC403	Digital Electronics	3	--	--	3	--	--	3
EEC404	Power Electronic Devices and Circuits	3	--	--	3	--	--	3
EEC405	Electric and Hybrid Electric Vehicles	3	--	--	3	--	--	3
EEL401	Electrical AC Machines Lab I	--	2	--	--	1	--	1
EEL402	Python Programming Lab	--	2	--	--	1	--	1
EEL403	Electronics Lab II	--	2	--	--	1	--	1
EEL404	SBL-II : PCB Design and Fabrication Lab	--	4	--	--	2	--	2
EEM401	Mini Project – 1B	--	4[$]	--	--	2	--	2
Total		**15**	**14**	**1**	**15**	**7**	**1**	**23**

Examination Scheme

Course Code	Course Name	Theory					Term Work	Pract/ oral	Total
		Internal Assessment			End Sem. Exam.	Exam. Duration (in Hrs)			
		Test I	Test II	Avg.					
EEC401	Engineering Mathematics-IV	20	20	20	80	3	25	--	125
EEC402	Electrical AC Machines-I	20	20	20	80	3	--	--	100
EEC403	Digital Electronics	20	20	20	80	3	--	--	100
EEC404	Power Electronic Devices and Circuits	20	20	20	80	3	--	--	100
EEC405	Electric and Hybrid Electric Vehicles	20	20	20	80	3	--	--	100
EEL401	Electrical AC Machines Lab-I	--	--	--	--	--	25	25	50
EEL402	Python Programming Lab	--	--	--	--	--	25	25	50
EEL403	Electronics Lab-II	--	--	--	--	--	25	25	50
EEL404	SBL-II: PCB Design and Fabrication Lab	--	--	--	--	--	50	--	50
EEM401	Mini Project -1B	--	--	--	--	--	25	25	50
Total		**--**	**--**	**100**	**400**	**--**	**175**	**100**	**775**

$ indicates work load of Learner (Not Faculty), for Mini Project

SBL- Skill Based Lab

Students group and load of faculty per week.

Mini Project 1A / 1B: Students can form groups with minimum 3 (Three) and not more than 4 (Four)

Faculty Load: 1 hour per week per four groups

Program Structure for Second Year Engineering
Semester III & IV
UNIVERSITY OF MUMBAI
(With Effect from 2020-2021)
Semester III

Course Code	Course Name	Teaching Scheme (Contact Hours)			Credits Assigned			
		Theory	Pract.	Tut.	Theory	Pract.	Tut.	Total
ECC301	Engineering Mathematics-III	3	--	1*	3	--	1	4
ECC302	Electronic Devices & Circuits	3	--	--	3	--	--	3
ECC303	Digital System Design	3	--	--	3	--	--	3
ECC304	Network Theory	3	--	1	3	--	1	4
ECC305	Electronic Instrumentation & Control Systems	3	--	--	3	--	--	3
ECL301	Electronic Devices & Circuits Lab	--	2	--	--	1	--	1
ECL302	Digital System Design Lab	--	2	--	--	1	--	1
ECL303	Electronic Instrumentation & Control Systems Lab	--	2	--	--	1	--	1
ECL304	Skill Lab: C++ and Java Programming	--	4	--	--	2	--	2
ECM301	Mini Project 1A	--	4$	--	--	2	--	2
Total		**15**	**14**	**2**	**15**	**07**	**2**	**24**

* Should be conducted batch wise.
$ Indicates work load of a learner (Not Faculty) for Mini Project 1A. Faculty Load: 1 hour per week per four groups.

Course Code	Course Name	Examination Scheme							
		Theory					Term Work	Pract. & oral	Total
		Internal Assessment			End Sem. Exam	Exam. Duration (in Hrs)			
		Test 1	Test 2	Avg.					
ECC301	Engineering Mathematics-III	20	20	20	80	3	25	--	125
ECC302	Electronic Devices & Circuits	20	20	20	80	3	--	--	100
ECC303	Digital System Design	20	20	20	80	3	--	--	100
ECC304	Network Theory	20	20	20	80	3	25	--	125
ECC305	Electronic Instrumentation & Control Systems	20	20	20	80	3	--	--	100
ECL301	Electronic Devices & Circuits Lab	--	--	--	--	--	25	25	50
ECL302	Digital System Design Lab	--	--	--	--	--	25	--	25
ECL303	Electronic Instrumentation & Control Systems Lab	--	--	--	--	--	25	--	25
ECL304	Skill Lab: C++ and Java Programming	--	--	--	--	--	25	25	50
ECM301	Mini Project 1A	--	--	--	--	--	25	25	50
Total		--	--	**100**	**400**	--	**125**	**75**	**750**

Semester IV

Course Code	Course Name	Teaching Scheme (Contact Hours)			Credits Assigned			
		Theory	Pract.	Tut.	Theory	Pract.	Tut.	Total
ECC401	Engineering Mathematics-IV	3	--	1*	3	--	1	4
ECC402	Microcontrollers	3	--	--	3	--	--	3
ECC403	Linear Integrated Circuits	3	--	--	3	--	--	3
ECC404	Signals & Systems	3	--	1	3	--	1	4
ECC405	Principles of Communication Engineering	3	--	--	3	--	--	3
ECL401	Microcontrollers Lab	--	2	--	--	1	--	1
ECL402	Linear Integrated Circuits Lab	--	2	--	--	1	--	1
ECL403	Principles of Communication Engineering Lab	--	2	--	--	1	--	1
ECL404	Skill Lab: Python Programming	--	4	--	--	2	--	2
ECM401	Mini Project 1B	--	4$	--	--	2	--	2
Total		**15**	**14**	**2**	**15**	**7**	**2**	**24**

*** Should be conducted batch wise.**

$ Indicates work load of a learner (Not Faculty) for Mini Project 1B. Faculty Load: 1 hour per week per four groups.

Course Code	Course Name	Examination Scheme							
		Theory					Term Work	Pract. & oral	Total
		Internal Assessment			End Sem. Exam.	Exam. Duration (in Hrs)			
		Test 1	Test 2	Avg.					
ECC401	Engineering Mathematics-IV	20	20	20	80	3	25	--	125
ECC402	Microcontrollers	20	20	20	80	3	--	--	100
ECC403	Linear Integrated Circuits	20	20	20	80	3	--	--	100
ECC404	Signals & Systems	20	20	20	80	3	25	--	125
ECC405	Principles of Communication Engineering	20	20	20	80	3	--	--	100
ECL401	Microcontrollers Lab	--	--	--	--	--	25	--	25
ECL402	Linear Integrated Circuits Lab	--	--	--	--	--	25	25	50
ECL403	Principles of Communication Engineering Lab	--	--	--	--	--	25	25	50
ECL404	Skill Lab: Python Programming	--	--	--	--	--	25	25	50
ECM401	Mini Project 1B	--	--	--	--	--	25	25	50
Total		--	--	**100**	**400**	--	175		775

Program Structure for Second Year Engineering
Semester III & IV
UNIVERSITY OF MUMBAI
(With Effect from 2020-2021)

Semester III

Course Code	Course Name	Teaching Scheme (Contact Hours)			Credits Assigned			
		Theory	Pract.	Tut.	Theory	Pract.	Tut.	Total
MEC301	Engineering Mathematics-III	3	--	1	3	--	1	4
MEC302	Strength of Materials	3		--	3		--	3
MEC303	Production Processes	4	--	--	4	--	--	4
MEC304	Materials and Metallurgy	3	--	--	3	--	--	3
MEC305	Thermodynamics	3	--	--	3	--	--	3
MEL301	Materials Testing	--	2	--	--	1	--	1
MEL302	Machine Shop Practice	--	4	--	--	2	--	2
MESBL301	CAD –Modeling	--	4	--	--	2	--	2
MEPBL301	Mini Project – 1A	--	4[$]	--	--	2	--	2
Total		**16**	**14**	**1**	**16**	**07**	**1**	**24**

Course Code	Course Name	Examination Scheme							
		Theory					Term Work	Pract/ Oral	Total
		Internal Assessment			End Sem. Exam	Exam. Duration (in Hrs)			
		Test1	Test2	Avg.					
MEC301	Engineering Mathematics-III	20	20	20	80	3	25	--	125
MEC302	Strength of Materials	20	20	20	80	3	--	--	100
MEC303	Production Processes	20	20	20	80	3	--	--	100
MEC304	Materials and Metallurgy	20	20	20	80	3	--	--	100
MEC305	Thermodynamics	20	20	20	80	3	--	--	100
MEL301	Materials Testing	--	--	--	--	--	25	25	50
MEL302	Machine Shop Practice	--	--	--	--	--	50	--	50
MESBL301	CAD – Modeling	--	--	--	--	--	25	25	50
MEPBL301	Mini Project – 1A	--	--	--	--	--	25	25	50
Total		--	--	**100**	**400**	--	**150**	**75**	**725**

$ indicates work load of Learner (Not Faculty), for Mini Project
SBL – Skill Based Laboratory
PBL – Project Based Learning

Semester IV

Course Code	Course Name	Teaching Scheme (Contact Hours)			Credits Assigned			
		Theory	Pract.	Tut.	Theory	Pract.	Tut.	Total
MEC401	Engineering Mathematics-IV	3	--	1	3	--	1	4
MEC402	Fluid Mechanics	3	--	--	3	--	--	3
MEC403	Kinematics of Machinery	3	--	--	3	--	--	3
MEC404	CAD/CAM	3	--	--	3	--	--	3
MEC405	Industrial Electronics	3	--	--	3	--	--	3
MEL401	Industrial Electronics	--	2	--	--	1	--	1
MEL402	Kinematics of Machinery	--	2	--	--	1	--	1
MEL403	Python Programming	--	2	--	--	1	--	1
MESBL401	CNC and 3-D Printing	--	4	--	--	2	--	2
MEPBL401	Mini Project – 1B	--	4$	--	--	2	--	2
Total		**15**	**14**	**1**	**15**	**7**	**1**	**23**

Course Code	Course Name	Examination Scheme							
		Theory					Term Work	Pract/ Oral	Total
		Internal Assessment			End Sem. Exam	Exam. Duration (in Hrs)			
		Test1	Test 2	Avg.					
MEC401	Engineering Mathematics-IV	20	20	20	80	3	25	--	125
MEC402	Fluid Mechanics	20	20	20	80	3	--	--	100
MEC403	Kinematics of Machinery	20	20	20	80	3	--	--	100
MEC404	CAD/CAM	20	20	20	80	3	--	--	100
MEC405	Industrial Electronics	20	20	20	80	3	--	--	100
MEL401	Industrial Electronics	--	--	--	--	--	25	25	50
MEL402	Kinematics of Machinery	--	--	--	--	--	25	--	25
MEL403	Python Programming	--	--	--	--	--	25	25	50
MESBL401	CNC and 3-D Printing	--	--	--	--	--	25	25	50
MEPBL401	Mini Project – 1B	--	--	--	--	--	25	25	50
Total		**--**	**--**	**100**	**400**	**--**	**150**	**100**	**750**

$ indicates work load of Learner (Not Faculty), for Mini Project
SBL – Skill Based Laboratory
PBL – Project Based Learning

Students group and load of faculty per week.
Mini Project 1A / 1B: Students can form groups with minimum 2 (Two) members and not more than 4 (Four) members
Faculty Load: 1 hour per week per four groups

Undergraduate Program Structure for Third year Civil Engineering
University of Mumbai
(With Effect from A.Y. **2021-2022**)
Semester - V

Course Code	Course Name	Teaching Scheme (Contact Hours)			Credit Assigned			
		Theory	Pract.	Tut.	Theory	Pract.	Tut.	Total
CEC501	Theory of Reinforced Concrete Structures	03	-	-	03	-	-	03
CEC502	Applied Hydraulics	03	-	-	03	-	-	03
CEC503	Geotechnical Engineering-I	03	-	-	03	-	-	03
CEC504	Transportation Engineering	04	-	-	04	-	-	04
CEDLO501X	Department Level Optional Course-1	03	-	-	03	-	-	03
CEL501	Theory of Reinforced Concrete Structures	-	02	-	-	01	-	01
CEL502	Applied Hydraulics	-	02	-	-	01	-	01
CEL503	Geotechnical Engineering-I	-	02	-	-	01	-	01
CEL504	Transportation Engineering	-	02	-	-	01	-	01
CEL505	Professional Communication and Ethics	-	02*+2	-	-	02	-	02
CEM501	Mini Project – 2A	-	04$	-	-	02	-	02
Total		**16**	**16**	**-**	**16**	**08**	**-**	**24**

Examination Scheme									
Course Code	Course Name	Internal Assessment			End Sem Exam	Exam Duration (Hrs.)	Term Work	Pract /Oral	Total
		Test - I	Test – II	Avg.					
CEC501	Theory of Reinforced Concrete Structures	20	20	20	80	03	-	-	100
CEC502	Applied Hydraulics	20	20	20	80	03	-	-	100
CEC503	Geotechnical Engineering-I	20	20	20	80	03	-	-	100
CEC504	Transportation Engineering	20	20	20	80	03	-	-	100
CEDLO501 X	Department Level Optional Course -1	20	20	20	80	03	-	-	100
CEL501	Theory of Reinforced Concrete Structures	-	-	-	-	-	25	25	50
CEL502	Applied Hydraulics	-	-	-	-	-	25	25	50
CEL503	Geotechnical Engineering-I	-	-	-	-	-	25	25	50
CEL504	Transportation Engineering	-	-	-	-	-	25	25	50
CEL505	Professional Communication and Ethics	-	-	-	-	-	25	25	50
CEM501	Mini Project – 2A	-	-	-	-	-	25	25	50
Total		**100**			**400**	**-**	**150**	**150**	**800**

*** Theory class to be conducted for full class**
$ indicates work load of Learner (Not Faculty), for Mini Project

Principal
Vishwaniketan's (i MEET)

Undergraduate Program Structure for Third year Civil Engineering
University of Mumbai
(With Effect from A.Y. **2021-2022**)
Semester - V

Department Level Optional Course – 1

Sr. No.	Course Code CEDLO501X	Department Level Optional Course – 1
1	CEDLO5011	Modern Surveying Instruments and Techniques
2	CEDLO5012	Building Services & Repairs
3	CEDLO5013	Sustainable Building Materials
4	CEDLO5014	Advanced Structural Mechanics
5	CEDLO5015	Air and Noise Pollution & Control
6	CEDLO5016	Transportation Planning & Economics
7	CEDLO5017	Advanced Concrete Technology

Undergraduate Program Structure for Third year Civil Engineering
University of Mumbai
(With Effect from A.Y. **2021-2022**)
Semester VI

Course Code	Course Name	Teaching Scheme (Contact Hours)			Credit Assigned			
		Theory	Pract.	Tut.	Theory	Pract.	Tut.	Total
CEC601	Design & Drawing of Steel Structures	03	-	-	03	-	-	03
CEC602	Water Resources Engineering	03	-	-	03	-	-	03
CEC603	Geotechnical Engineering-II	03	-	-	03	-	-	03
CEC604	Environmental Engineering	04	-	-	04	-	-	04
CEDLO601X	Department Level Optional Course -2	03	-	-	03	-	-	03
CEL601	Design & Drawing of Steel Structures	-	02	-	-	01	-	01
CEL602	Water Resources Engineering	-	02	-	-	01	-	01
CEL603	Geotechnical Engineering-II	-	02	-	-	01	-	01
CEL604	Environmental Engineering	-	02	-	-	01	-	01
CEL605	Skill Based Lab Course – III	-	03	-	-	1.5	-	1.5
CEM601	Mini Project – 2B	-	03$	-	-	1.5	-	1.5
Total		**16**	**14**	**-**	**16**	**07**	**-**	**23**

Examination Scheme									
Course Code	Course Name	Internal Assessment			End Sem Exam	Exam Duration (Hrs.)	Term Work	Pract. /Oral	Total
		Test – I	Test - II	Avg.					
CEC601	Design & Drawing of Steel Structures	20	20	20	80	04	-	-	100
CEC602	Water Resources Engineering	20	20	20	80	03	-	-	100
CEC603	Geotechnical Engineering-II	20	20	20	80	03	-	-	100
CEC604	Environmental Engineering	20	20	20	80	03	-	-	100
CEDLO601X	Department Level Optional Course -2	20	20	20	80	03	-	-	100
CEL601	Design & Drawing of Steel Structures	-	-	-	-	-	25	25	50
CEL602	Water Resources Engineering	-	-	-	-	-	25	25	50
CEL603	Geotechnical Engineering-II	-	-	-	-	-	25	25	50
CEL604	Environmental Engineering	-	-	-	-	-	25	25	50
CEL605	Skill Based Lab Course-III	-	-	-	-	-	25	25	50
CEM601	Mini Project – 2B	-	-	-	-	-	25	25	50
Total		**100**			**400**	**-**	**150**	**150**	**800**

Principal
Vishwaniketan's (i MEET)

$ indicates work load of Learner (Not Faculty), for Mini Project.

Undergraduate Program Structure for Third year Civil Engineering

University of Mumbai

(With Effect from A.Y. 2021-2022)

Semester - VI

Department Level Optional Course – 2

Sr. No.	Course Code CEDLO601X	Department Level Optional Course – 2
1	CEDLO6011	Rock Mechanics
2	CEDLO6012	Biological Processes & Contaminant Removal
3	CEDLO6013	Construction Equipment & Techniques
4	CEDLO6014	Urban Infrastructure Planning
5	CEDLO6015	Open Channel Flow
6	CEDLO6016	Computational Structural Analysis
7	CEDLO6017	Traffic Engineering and Management
8	CEDLO6018	Introduction to Offshore Engineering

Program Structure for Third Year Computer Engineering
UNIVERSITY OF MUMBAI (With Effect from 2021-2022)
Semester VI

Course Code	Course Name	Teaching Scheme (Contact Hours)		Credits Assigned		
		Theory	Pract. Tut.	Theory	Pract.	Total
CSC601	System Programming & Compiler Construction	3	--	3	--	3
CSC602	Cryptography & System Security	3	--	3		3
CSC603	Mobile Computing	3	--	3	--	3
CSC604	Artificial Intelligence	3	--	3	--	3
CSDLO601x	Department Level Optional Course -2	3	--	3	--	3
CSL601	System Programming & Compiler Construction Lab	--	2	--	1	1
CSL602	Cryptography & System Security Lab	--	2	--	1	1
CSL603	Mobile Computing Lab	--	2	--	1	1
CSL604	Artificial Intelligence Lab	--	2	--	1	1
CSL605	Skill base Lab Course: Cloud Computing	--	4	--	2	2
CSM601	Mini Project Lab: 2B	--	4[S]	--	2	2
Total		**15**	**16**	**15**	**08**	**23**

Course Code	Course Name	Examination Scheme							
		Theory					Term Work	Pract. &oral	Total
		Internal Assessment			End Sem Exam	Exam. Duration (in Hrs)			
		Test 1	Test 2	Avg					
CSC601	System Programming & Compiler Construction	20	20	20	80	3	--	--	100
CSC602	Cryptography & System Security	20	20	20	80	3	--	--	100
CSC603	Mobile Computing	20	20	20	80	3	--	--	100
CSC604	Artificial Intelligence	20	20	20	80	3	--	--	100
CSDLO601x	Department Level Optional Course -2	20	20	20	80	3	--	--	100
CSL601	System Programming & Compiler Construction Lab	--	--	--	--	--	25	25	50
CSL602	Cryptography & System Security Lab	--	--	--	--	--	25	--	25
CSL603	Mobile Computing Lab	--	--	--	--	--	25	-	25
CSL604	Artificial Intelligence Lab						25	25	50
CSL605	Skill base Lab Course: Cloud Computing	--	--	--	--	--	50	25	75
CSM601	Mini Project :2B	--	--	--	--	--	25		
	Total	--	--	**100**	**400**	--	**175**	**100**	**775**

Program Structure for Computer Engineering

UNIVERSITY OF MUMBAI (With Effect from 2021-2022)

Department Optional Courses

Department Level Optional Courses	Semester	Code & Course
Department Level Optional Course -2	VI	CSDLO6011: Internet of Things CSDLO6012: Digital Signal & Image Processing CSDLO6013: Quantitative Analysis

Vishwaniketan iMEET E.N. 3467

TRUE COPY

Principal
Vishwaniketan's (i MEET)

Program Structure for Third Year Engineering
Semester V & VI
UNIVERSITY OF MUMBAI
(With Effect from 2021-2022)

Semester V

Course Code	Course Name	Teaching Scheme (Contact Hours)			Credits Assigned			
		Theory	Pract.	Tut.	Theory	Pract.	Tut.	Total
ECC501	Digital Communication	3	--	--	3	--	--	3
ECC502	Discrete Time Signal Processing	3	--	--	3	--	--	3
ECC503	Digital VLSI	3	--	--	3	--	--	3
ECC504	Random Signal Analysis	3	--	1	3	--	1	4
ECCDLO 501X	Department Optional Course-1	3	--	--	3	--	--	3
ECL501	Digital Communication Lab	--	2	--	--	1	--	1
ECL502	Discrete Time Signal Processing Lab	--	2	--	--	1	--	1
ECL503	Digital VLSI Lab	--	2	--	--	1	--	1
ECL504	Professional Communication & Ethics - II	--	2*+2~	--	--	2	--	2
ECM501	Mini Project 2A- Embedded System Project	--	4$	--	--	2	--	2
Total		**15**	**14**	**1**	**15**	**07**	**1**	**23**

*** Theory should be conducted for the full class.**

~ Batch-wise practical's to be conducted

$ Indicates work load of a learner (Not Faculty) for Mini Project 2A. Faculty Load: 1 hour per week per four groups.

Course Code	Course Name	Examination Scheme							
		Theory					Term Work	Pract. & oral	Total
		Internal Assessment			End Sem. Exam	Exam. Duration (in Hrs)			
		Test 1	Test 2	Avg.					
ECC501	Digital Communication	20	20	20	80	3	--	--	100
ECC502	Discrete Time Signal Processing	20	20	20	80	3	--	--	100
ECC503	Digital VLSI	20	20	20	80	3	--	--	100
ECC504	Random Signal Analysis	20	20	20	80	3	25	--	125
ECCDLO 501X	Department Level Optional Course-1	20	20	20	80	3	--	--	100
ECL501	Digital Communication Lab	--	--	--	--	--	25	25	50
ECL502	Discrete Time Signal Processing Lab	--	--	--	--	--	25	25	50
ECL503	Digital VLSI Lab	--	--	--	--	--	25	25	50
ECL504	Business Communication and Ethics Lab	--	--	--	--	--	25	25	50
ECM501	Mini Project 2A- Embedded System Project	--	--	--	--	--	25	25	50
Total		--	--	**100**	**400**	--	**150**	**125**	**775**

Principal
Vishwaniketan's (i MEET)

Department Level Optional Course-1

Course Code	Department Level Optional Course-1
ECCDLO5011	Digital and IPTV Engineering
ECCDLO5012	Data Compression and Cryptography
ECCDLO5013	IT Infra and Security
ECCDLO5014	Data Structures and Algorithm
ECCDLO5015	Sensor Technology

TRUE COPY

Principal
Vishwaniketan's (i MEET)

Semester VI

Course Code	Course Name	Teaching Scheme (Contact Hours)			Credits Assigned			
		Theory	Pract.	Tut.	Theory	Pract.	Tut.	Total
ECC601	Electromagnetics and Antenna	3	--	--	3	--	--	3
ECC602	Computer Communication Networks	3	--	--	3	--	--	3
ECC603	Image Processing and Machine Vision	3	--	--	3	--	--	3
ECC604	Artificial Neural Network and Fuzzy Logic	3	--	--	3	--	--	3
ECCDLO 601X	Department Level Optional Course-2	3	--	--	3	--	--	3
ECL601	Electromagnetics and Antenna Lab	--	2	--	--	1	--	1
ECL602	Computer Communication Networks Lab	--	2	--	--	1	--	1
ECL603	Image Processing and Machine Vision Lab	--	2	--	--	1	--	1
ECL604	Skill Lab: Linux and Networking and Server Configuration	--	4	--	--	2	--	2
ECM601	Mini Project 2B- FPGA based Project	--	4$	--	--	2	--	2
Total		**15**	**14**	**--**	**15**	**07**	**--**	**22**

$ Indicates work load of a learner (Not Faculty) for Mini Project 2B. Faculty Load: 1 hour per week per four groups.

Course Code	Course Name	Examination Scheme							
		Theory					Term Work	Pract. & oral	Total
		Internal Assessment			End Sem. Exam.	Exam. Duration (in Hrs)			
		Test 1	Test 2	Avg.					
ECC601	Electromagnetics and Antenna	20	20	20	80	3	--	--	100
ECC602	Computer Communication Networks	20	20	20	80	3	--	--	100
ECC603	Image Processing and Machine Vision	20	20	20	80	3	--	--	100
ECC604	Artificial Neural Network and Fuzzy Logic	20	20	20	80	3	--	--	100
ECCDLO 601X	Department Level Optional Course-2	20	20	20	80	3	--	--	100
ECL601	Electromagnetics and Antenna Lab	--	--	--	--	--	25	25	50
ECL602	Computer Communication Networks Lab	--	--	--	--	--	25	25	50
ECL603	Image Processing and Machine Vision Lab	--	--	--	--	--	25	25	50
ECL604	Skill Lab: Linux and Networking and Server Configuration	--	--	--	--	--	25	25	50
ECM601	Mini Project 2B- FPGA based Project	--	--	--	--	--	25	25	50
Total		**--**	**--**	**100**	**400**	**--**	**125**	**125**	**750**

Department Level Optional Course-2

Course Code	Department Level Optional Course-2
ECCDLO6011	Mixed Signal VLSI
ECCDLO6012	Computer Organization and Architecture
ECCDLO6013	Digital Forensic
ECCDLO6014	Database Management System
ECCDLO6015	IoT and Industry 4.0
ECCDLO6016	Radar Engineering

TRUE COPY

Principal
Vishwaniketan's (i MEET)

Semester VI

Course Code	Course Name	Teaching Scheme (Contact Hours)		Credits Assigned		
		Theory	Pract./ Tut.	Theory	Pract.	Total
EEC601	Power System Protection & Switchgear	3	--	3	--	3
EEC602	Microcontroller Applications	3	--	3		3
EEC603	Control System Design	3	--	3	--	3
EEC604	Signals and Systems	3	--	3	--	3
EEDO601X	Department Optional Course – 2	3	--	3	--	3
EEL601	Power System Protection & Switchgear Lab	--	2	--	1	1
EEL602	Microcontroller Applications Lab	--	2	--	1	1
EEL603	Control System Design Lab	--	2	--	1	1
EEL604	SBL-III: Industrial Automation Lab	--	4	--	2	2
EEM601	Mini Project – 2 B	--	4$	--	2	2
Total		**15**	**14**	**15**	**07**	**22**

Course Code	Course Name	Examination Scheme							
		Theory					Term Work	Prac / Oral	Total
		Internal Assessment			End Sem Exam	Exam. Duration (in Hrs)			
		Test1	Test2	Avg					
EEC601	Power System Protection & Switchgear	20	20	20	80	3	--	--	100
EEC602	Microcontroller Applications	20	20	20	80	3	--	--	100
EEC603	Control System Design	20	20	20	80	3	--	--	100
EEC604	Signals and Systems	20	20	20	80	3	--	--	100
EEDO601X	Department Optional Course – 2	20	20	20	80	3	--	--	100
EEL601	Power System Protection & Switchgear Lab	--	--	--	--	--	25	25	50
EEL602	Microcontroller Applications Lab	--	--	--	--	--	25	25	50
EEL603	Control System Design Lab	--	--	--	--	--	25	--	25
EEL604	SBL-III: Industrial Automation Lab	--	--	--	--	--	25	25	50
EEM601	Mini Project – 2 B	--	--	--	--	--	25	25	50
Total		--	--	**100**	**400**	--	125	100	225

$ indicates work load of Learner (Not Faculty), for Mini Project; **Faculty Load**: 1 hour per week per four groups

Principal
Vishwaniketan's (i MEET)

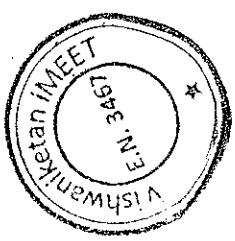
Department Optional Courses

Sem. V: Department Optional Course – 1

EEDO5011: Renewable Energy Sources
EEDO5012: Advanced Power Electronics
EEDO5013: Advanced Measurements and Instrumentation
EEDO5014: Analog and Digital Communication

Sem. VI: Department Optional Course – 2

EEDO6011: Special Electrical Machine
EEDO6012: Electric Traction
EEDO6013: High Voltage Engineering
EEDO6014: Energy Storage



TRUE COPY

Principal
Vishwaniketan's (i MEET)

Semester VI

Course Code	Course Name	Teaching Scheme (Contact Hours)		Credits Assigned		
		Theory	Pract./ Tut.	Theory	Pract.	Total
EEC601	Power System Protection & Switchgear	3	--	3	--	3
EEC602	Microcontroller Applications	3	--	3		3
EEC603	Control System Design	3	--	3	--	3
EEC604	Signals and Systems	3	--	3	--	3
EEDO601X	Department Optional Course – 2	3	--	3	--	3
EEL601	Power System Protection & Switchgear Lab	--	2	--	1	1
EEL602	Microcontroller Applications Lab	--	2	--	1	1
EEL603	Control System Design Lab	--	2	--	1	1
EEL604	SBL-III: Industrial Automation Lab	--	4	--	2	2
EEM601	Mini Project – 2 B	--	4$	--	2	2
Total		**15**	**14**	**15**	**07**	**22**

Course Code	Course Name	Examination Scheme							
		Theory					Term Work	Prac / Oral	Total
		Internal Assessment			End Sem Exam	Exam. Duration (in Hrs)			
		Test1	Test2	Avg					
EEC601	Power System Protection & Switchgear	20	20	20	80	3	--	--	100
EEC602	Microcontroller Applications	20	20	20	80	3	--	--	100
EEC603	Control System Design	20	20	20	80	3	--	--	100
EEC604	Signals and Systems	20	20	20	80	3	--	--	100
EEDO601X	Department Optional Course – 2	20	20	20	80	3	--	--	100
EEL601	Power System Protection & Switchgear Lab	--	--	--	--	--	25	25	50
EEL602	Microcontroller Applications Lab	--	--	--	--	--	25	25	50
EEL603	Control System Design Lab	--	--	--	--	--	25	--	25
EEL604	SBL-III: Industrial Automation Lab	--	--	--	--	--	25	25	50
EEM601	Mini Project – 2 B	--	--	--	--	--	25	25	50
Total		--	--	**100**	**400**	--	125	100	225

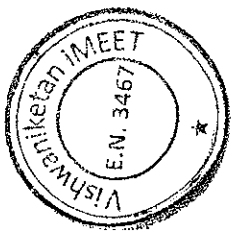
$ indicates work load of Learner (Not Faculty), for Mini Project; **Faculty Load**: 1 hour per week per four groups

Principal
Vishwaniketan's (i MEET)

Department Optional Courses

Sem. VI: Department Optional Course – 2

EEDO6011: Special Electrical Machine
EEDO6012: Electric Traction
EEDO6013: High Voltage Engineering
EEDO6014: Energy Storage



TRUE COPY

Principal
Vishwaniketan's (i MEET)

Program Structure for Third Year Engineering
Semester V &VI
UNIVERSITY OF MUMBAI
(With Effect from 2021-2022)

Semester V

Course Code	Course Name	Teaching Scheme (Contact Hours)		Credits Assigned		
		Theory	Pract.	Theory	Pract.	Total
MEC501	Mechanical Measurements and Controls	3	--	3	--	3
MEC502	Thermal Engineering	3	--	3		3
MEC503	Dynamics of Machinery	3	--	3	--	3
MEC504	Finite Element Analysis	3	--	3	--	3
MEDLO501X	Department Level Optional Course – 1	3	--	3	--	3
MEL501	Thermal Engineering	--	2	--	1	1
MEL502	Dynamics of Machinery	--	2	--	1	1
MEL503	Finite Element Analysis	--	2	--	1	1
MESBL501	Professional communication and ethics –II	--	2*+2	--	2	2
MEPBL501	Mini Project – 2 A	--	4$	--	2	2
Total		**15**	**14**	**15**	**07**	**22**

Course Code	Course Name	Examination Scheme							
		Theory					Term Work	Prac/ Oral	Total
		Internal Assessment			End Sem Exam	Exam. Duration (in Hrs)			
		Test1	Test2	Avg					
MEC501	Mechanical Measurements and Controls	20	20	20	80	3	--	--	100
MEC502	Thermal Engineering	20	20	20	80	3	--	--	100
MEC503	Dynamics of Machinery	20	20	20	80	3	--	--	100
MEC504	Finite Element Analysis	20	20	20	80	3	--	--	100
MEDLO501X	Department Level Optional Course – 1	20	20	20	80	3	--	--	100
MEL501	Thermal Engineering	--	--	--	--	--	25	--	25
MEL502	Dynamics of Machinery	--	--	--	--	--	25	25	50
MEL503	Finite Element Analysis	--	--	--	--	--	25	25	50
MESBL501	Professional communication and ethics	--	--	--	--	--	25	25	50
MEPBL501	Mini Project – 2 A	--	--	--	--	--	25	25	50
	Total	--	--	**100**	**400**	--	**125**	**100**	**725**

* Theory class to be conducted for full class, $ indicates work load of Learner (Not Faculty), for Mini Project;

SBL – Skill Based Laboratory
PBL – Project Based Learning

Department Level Optional Course – 1

Course Code	Department Level Optional Course – 1
MEDLO5011	Optimization Techniques
MEDLO5012	Design of Experiments
MEDLO5013	Computational Methods

TRUE COPY

Principal
Vishwaniketan's (i MEET)

Semester VI

Course Code	Course Name	Teaching Scheme (Contact Hours)		Credits Assigned		
		Theory	Pract/Tut.	Theory	Pract.	Total
MEC601	Machine Design	4	--	4	--	4
MEC602	Turbo Machinery	3	--	3		3
MEC603	Heating, Ventilation, Air conditioning and Refrigeration	3	--	3	--	3
MEC604	Automation and Artificial Intelligence	3	--	3	--	3
MEDLO602X	Department Level Optional Course – 2	3	--	3	--	3
MEL601	Machine Design	--	2	--	1	1
MEL602	Turbo Machinery	--	2	--	1	1
MEL603	Heating, Ventilation, Air conditioning and Refrigeration	--	2	--	1	1
MESBL601	Measurements and Automation	--	4	--	2	2
MEPBL601	Mini Project – 2 B	--	$4^{\$}$	--	2	2
Total		**16**	**14**	**16**	**07**	**23**

Course Code	Course Name	Examination Scheme							
		Theory					Term Work	Prac/ Oral	Total
		Internal Assessment			End Sem Exam	Exam. Duration (in Hrs)			
		Test1	Test2	Avg					
MEC601	Machine Design	20	20	20	80	3	--	--	100
MEC602	Turbo Machinery	20	20	20	80	3	--	--	100
MEC603	Heating, Ventilation, Air conditioning and Refrigeration	20	20	20	80	3	--	--	100
MEC604	Automation and Artificial Intelligence	20	20	20	80	3	--	--	100
MEDLO602 X	Department Level Optional Course – 2	20	20	20	80	3	--	--	100
MEL601	Machine Design	--	--	--	--	--	25	25	50
MEL602	Turbo Machinery	--	--	--	--	--	25	--	25
MEL603	Heating, Ventilation, Air conditioning and Refrigeration	--	--	--	--	--	25	25	50
MESBL601	Measurements and Automation	--	--	--	--	--	25	25	50
MEPBL601	Mini Project – 2 B	--	--	--	--	--	25	25	50
	Total	**--**	**--**	**100**	**400**	**--**	**125**	**100**	**725**

$ indicates work load of Learner (Not Faculty), for Mini Project;

TRUE COPY

Principal
Vishwaniketan's (I MEET)

SBL – Skill Based Laboratory;
PBL – Project Based Learning

Department Level Optional Course – 2

Course Code	Department Level Optional Course – 2
MEDLO6021	Press Tool Design
MEDLO6022	Tool Engineering
MEDLO6023	Metal Forming Technology

TRUE COPY

Principal
Vishwaniketan's (I MEET)

University of Mumbai

Scheme of Instructions and Examination

Fourth Year Engineering (Civil Engineering)

(With effect from 2019-2020)

(Semester -VII)

Subject Code	Subject Name	Teaching Scheme (Contact Hours)			Credits Assigned			
		Theory	Practs.	Tut.	Theory	Pract.	Tut.	Total
CE-C701	Quantity Survey Estimation and Valuation	4	2	--	4	1	-	5
CE-C702	Theory of Reinforced Concrete Structures	4	2	--	4	1	--	5
CE-C703	Water Resource Engineering -II	3	2	--	3	1	-	4
CE-DLO704X	Department Level Optional Course-III	3	2	--	3	1	--	4
ILO701X	Institute Level Optional Course-I	3	--		3	--		3
CE-C705	Project – Part I	--	6	--	--	3	--	3
Total		**17**	**14**	**--**	**17**	**7**	**--**	**24**

Subject Code	Subject Name	Examination Scheme								
		Theory					Term Work	Pract	Oral	Total
		Internal Assessment			End Sem. Exam.	Exam. Duration (InHrs.)				
		Test1	Test 2	Avg						
CE-C701	Quantity Survey Estimation and Valuation	20	20	20	80	4	25	--	25	150
CE-C702	Theory of Reinforced Concrete Structures	20	20	20	80	3	25	--	25	150
CE-C703	Water Resource Engineering-II	20	20	20	80	3	25	--	25	150
CE-DLO704X	Department Level Optional Course-III	20	20	20	80	3	25	--	25	150
ILO701X	Institute Level Optional Course I	20	20	20	80	3	--	--	-	100
CE-P705	Project – Part I	--	--	--	--	--	50	--	25@	75
Total		**100**	**100**	**100**	**400**		**150**	**--**	**125**	**775**

@ For Project Part-I (CE-P 706), the oral examination shall be based on the presentation/ seminar before the board of internal examiners to be appointed by the Head of the concerned Department.

TRUE COPY

Principal
Vidyaniketan's (i MEET)

University of Mumbai

Scheme of Instructions and Examination

Fourth Year Engineering (Civil Engineering)

(With effect from 2019-2020)

(Semester- VIII)

Subject Code	Subject Name	Teaching Scheme (Contact Hours)			Credits Assigned			
		Theory	Practs	Tut.	Theory	Practs	Tut	Total
CE-C801	Design and Drawing of Reinforced Concrete Structures	4	--	2	4	--	1	5
CE-C802	Construction Management	4	--	2	4	--	1	5
CE-DLO803X	Department Level Optional Course- IV	4	2	--	4	1	--	5
ILO802X	Institute Level Optional Course- II	3	--	1	3	--	1	4
CE-C804	Project – Part II	--	12	--	--	6	--	6
Total		**15**	**14**	**5**	**15**	**7**	**3**	**25**

Subject Code	Subject Name	Examination Scheme								
		Theory					Term Work	Pract	Oral	Total
		Internal Assessment			End Sem Exam	Exam. Duration (In Hrs.)				
		Test1	Test 2	Avg						
CE-C801	Design and Drawing of Reinforced Concrete Structures	20	20	20	80	4	25	--	25	150
CE-C802	Construction Management	20	20	20	80	3	25	--	25	150
CE-DLO803X	Department Level Optional Course-IV	20	20	20	80	3	25	--	25	150
ILO802X	Institute Level Optional Course II	20	20	20	80	3	25	--	--	100
CE-P 804	Project – Part II	--	--	--			50	--	50#	100
Total		**80**	**80**	**80**	**320**		**150**		**125**	**650**

The oral examination for the Project- Part II (CE-P 806) shall be based on the presentation/ seminar to be delivered by the projectee/s before the board of examiners. The board of internal examiners will comprise of the internal examiners and the external examiners to be approved by the University from the pool of eligible examiners.

Guidelines for Project, i.e., Dissertation (Part-I and II)

(i) Students can form groups with minimum of 2 (Two) students and not more than 4 (Four) students.
(ii) Faculty load: In Semester VII: 01 (One) clock hour per week per project group and in Semester VIII: 02 (Two) clock hours per week per project group.
(iii) Each faculty member shall be permitted to guide maximum 04 (Four) project groups.

Department Level Optional Course – III (Semester – VII)	Department Level Optional Course – IV (Semester – VIII)
CE-DLO7041: Pre-stressed Concrete CE-DLO7042: Solid Waste management CE-DLO7043: Pavement Sub-grade and Materials CE-DLO7044: Structural Dynamics CE-DLO7045: Application of GIS and Remote Sensing CE-DLO7046: Foundation Analysis and Design CE-DLO7047: Applied Hydrology and Flood Control	CE-DLO8031: Advanced Design of Steel Structures CE-DLO8032: Industrial Waste Treatment CE-DLO8033: Pavement Design and Construction CE-DLO8034: Bridge Engineering and Design CE-DLO8035: Appraisal and Implementation of Infrastructure Projects CE-DLO8036: Soil Dynamics CE-DLO8037: Design of Hydraulic Structures

Institute Level Optional Course – I (Semester –VII)	Institute Level Optional Course – II (Semester – VIII)
ILO7011: Product Lifecycle Management ILO7012: Reliability Engineering ILO7013: Management Information Systems ILO7014: Design of Experiments ILO7015: Operations Research ILO7016: Cyber Security and Laws ILO7017: Disaster Management and Mitigation Measures ILO7018: Energy Audit and Management ILO7019: Development Engineering	ILO8021: Project Management ILO8022: Finance Management ILO8023: Entrepreneurship Development and Management ILO8024: Human Resources Management ILO8025: Professional Ethics and Corporate Social Responsibility (CSR) ILO8026: Research Methodology ILO8027: Intellectual Property Rights and Patenting ILO8028: Digital Business Management ILO8029: Environment Management

Principal
Vishwaniketan's (I MEET)

Program Structure B.E. Computer Engineering, (Rev. 2016) w.e.f. AY 2019-20

B. E. Computer Engineering (Semester-VII)

Course Code	Course Name	Teaching Scheme (Contact Hours)			Credits Assigned			
		Theory	Pract	Tut	Theory	TW/ Pract	Tut	Total
CSC701	Digital Signal & Image Processing	4	-	-	4	-	-	4
CSC702	Mobile Communication & Computing	4	-	-	4	-	-	4
CSC703	Artificial Intelligence & Soft Computing	4	-	-	4	-	-	4
CSDLO 701X	Department Level Optional Course -III	4	-	-	4	-	-	4
ILO701X	Institute Level Optional Course-I	3	-	-	3	-	-	3
CSL701	Digital Signal & Image Processing Lab	-	2	-	-	1	-	1
CSL702	Mobile App. Development. Tech. Lab	-	2	-	-	1	-	1
CSL703	Artificial Intelligence & Soft Computing Lab	-	2	-		1	-	1
CSL704	Computational Lab-I	-	2			1	-	1
CSP705	Major Project-I	-	6			3	-	3
	Total	**19**	**14**	-	**19**	**7**	-	**26**

Course Code	Course Name	Examination Scheme								
		Theory					TW	Oral	Oral & Pract	Total
		Internal Assessment			End Sem. Exam	Exam Duration (in Hrs)				
		Test 1	Test 2	Avg.						
CSC701	Digital Signal & Image Processing	20	20	20	80	3	-	--	-	100
CSC702	Mobile Communication & Computing	20	20	20	80	3	-	--	-	100
CSC703	Artificial Intelligence & Soft Computing	20	20	20	80	3	-	--	-	100
CSDLO 701X	Department Level Optional Course -III	20	20	20	80	3	-	--	-	100
ILO701X	Institute Level Optional Course-I	20	20	20	80	3	--	--	-	100
CSL701	Digital Signal & Image Processing Lab	-	-	-	-	-	25	--	--	25
CSL702	Mobile App. Development. Tech. Lab	-	-	-	-	-	25	--	25	50
CSL703	Artificial Intelligence & Soft Computing Lab	--	-	-	-	--	25	25		50
CSL704	Computational Lab-I						25	--	25	50
CSP705	Major Project-I	-	-	-	-	-	50	-	25	75
Total		100	100	100	400		150	25	75	750

Sem.	Department Level Optional Course (DLOC)	Institute Level Optional Course (ILOC)
V	CSDLO5011: Multimedia System CSDLO5012: Advance Operating System CSDLO5013: Advance Algorithm	----------
VI	CSDLO6021: Machine Learning CSDLO6022: Advance Database System CSDLO6023: Enterprise Resource Planning CSDLO6024: Advance Computer Network	----------
VII	CSDLO7031: Advance System Security & Digital Forensics CSDLO7032: Big Data & Analytics CSDLO7033: Robotics	ILO7011. Product Lifecycle Management ILO7012. Reliability Engineering ILO7013. Management Information System ILO7014. Design of Experiments ILO7015. Operation Research ILO7016. Cyber Security and Laws ILO7017. Disaster Management & Mitigation Measures ILO7018. Energy Audit and Management ILO7019. Development Engineering
VIII	DLO8011: High Performance Computing DLO8012: Natural Language Processing DLO8013: Adhoc Wireless Network	ILO8021. Project Management ILO8022. Finance Management ILO8023. Entrepreneurship Development and Management ILO8024. Human Resource Management ILO8025. Professional Ethics and CSR ILO8026. Research Methodology ILO8027. IPR and Patenting ILO8028. Digital Business Management ILO8029. Environmental Management

Program Structure B.E. Computer Engineering, (Rev. 2016) w.e.f. AY 2019-20

B. E. Computer Engineering (Semester-VIII)

Course Code	Course Name	Teaching Scheme (Contact Hours)			Credits Assigned			
		Theory	Pract	Tut	Theory	TW/ Pract	Tut	Total
CSC801	Human Machine Interaction	4	-	-	4	-	-	4
CSC802	Distributed Computing	4	-	-	4	-	-	4
CSDLO 801X	Department Level Optional Course -IV	4	-	-	4	-	-	4
ILO801X	Institute Level Optional Course-II	3	-	-	3	-	-	3
CSL801	Human Machine Interaction Lab	-	2	-	-	1		1
CSL802	Distributed Computing Lab		2			1		1
CSL803	Cloud Computing Lab	-	4	-	-	2		2
CSL804	Computational Lab-II	-	2	-		1		1
CSP805	Major Project-II	-	12			6	-	6
	Total	**15**	**22**	-	**15**	**11**	-	**26**

Course Code	Course Name	Examination Scheme								
		Theory					TW	Oral	Oral & Pract	Total
		Internal Assessment			End Sem. Exam	Exam Duration (in				
		Test 1	Test 2	Avg.						
CSC801	Human Machine Interaction	20	20	20	80	3	-	-	-	100
CSC802	Distributed Computing	20	20	20	80	3	-	-	-	100
CSDLO 801X	Department Level Optional Course -IV	20	20	20	80	3	-	-	-	100
ILO801X	Institute Level Optional Course-II	20	20	20	80	3	-	-	-	100
CSC801	Human Machine Interaction Lab						25	25	-	50
CSL802	Distributed Computing Lab	-	-	-	-	-	25	25		50
CSL803	Cloud Computing Lab	-	-	-	-	-	50	--	25	75
CSL804	Computational Lab-II	-	-	-	-	-	50	--	25	75
CSP805	Major Project-II						50	--	50	100
Total		80	80	80	320	--	200	50	100	750

Sem.	Department Level Optional Course (DLOC)	Institute Level Optional Course (ILOC)
V	CSDLO5011: Multimedia System CSDLO5012: Advance Operating System CSDLO5013: Advance Algorithm	----------
VI	CSDLO6021: Machine Learning CSDLO6022: Advance Database System CSDLO6023: Enterprise Resource Planning CSDLO6024: Advance Computer Network	----------
VII	CSDLO7031: Advance System Security & Digital Forensics CSDLO7032: Big Data & Analytics CSDLO7033: Robotics	ILO7011. Product Lifecycle Management ILO7012. Reliability Engineering ILO7013. Management Information System ILO7014. Design of Experiments ILO7015. Operation Research ILO7016. Cyber Security and Laws ILO7017. Disaster Management & Mitigation Measures ILO7018. Energy Audit and Management ILO7019. Development Engineering
VIII	DLO8011: High Performance Computing DLO8012: Natural Language Processing DLO8013: Adhoc Wireless Network	ILO8021. Project Management ILO8022. Finance Management ILO8023. Entrepreneurship Development and Management ILO8024. Human Resource Management ILO8025. Professional Ethics and CSR ILO8026. Research Methodology ILO8027. IPR and Patenting ILO8028. Digital Business Management ILO8029. Environmental Management

Program Structure for
BE Electrical Engineering
University of Mumbai
(With Effect from 2019-20)

Scheme for Semester VII

Course Code	Course Name	Teaching Scheme (Contact Hours)			Credits Assigned			
		Theory	Practical	Tutorial	Theory	Practical	Tutorial	Total
EEC701	Power System - III	4	-	1	4	-	1	5
EEC702	Drives and Control	4	-	-	4	-	-	4
EEC703	High Voltage Direct Current Transmission	4	-	-	4	-	-	4
EEDLO703X	Department Level Optional Course-III	3	-	1	3	-	1	4
ILO701X	Institute Level Optional Course-I	3	-	-	3	-	-	3
EEL701	Simulation Lab - III	-	2	-	-	1	-	1
EEL702	Drives and Control Lab	-	2	-	-	1	-	1
EEL703	Project-I	-	6	-	-	3	-	3
Total		**18**	**10**	**2**	**18**	**5**	**2**	**25**

TRUE COPY

Principal
Vishwaniketan's (i MEET)

Examination Scheme for Semester VII

Course Code	Course Name	Examination Scheme												Total Marks
		Theory				Term Work		Practical		Oral		Pract./Oral		
		External (UA)		Internal (CA)										
		Max Marks	Min Marks	Max Marks	Min Marks	Max Marks	Min Marks	Max Marks	Min Marks	Max Marks	Min Marks	Max Marks	Min Marks	
EEC701	Power System - III	80	32	20	8	25	10	-	-	-	-	-	-	125
EEC702	Drives and Control	80	32	20	8	-	-	-	-	-	-	-	-	100
EEC703	High Voltage Direct Current Transmission	80	32	20	8	-	-	-	-	-	-	-	-	100
EEDLO 703X	Department Level Optional Course-III	80	32	20	8	25	10	-	-	-	-	-	-	125
ILO701 X	Institute Level Optional Course-I	80	32	20	8	-	-	-	-	-	-	-	-	100
EEL701	Simulation Lab - III	-	-	-	-	25	10	-	-	25	10	-	-	50
EEL702	Drives and Control Lab	-	-	-	-	25	10	-	-	-	-	25	10	50
EEL703	Project-I	-	-	-	-	25	10	-	-	25	10	-	-	50
Total		**400**	**-**	**100**	**-**	**125**	**-**	**-**	**-**	**50**	**-**	**25**	**-**	**700**

List of Department Level Optional Courses

Course Code	Department Level Optional Course - III
EEDLO7031	High Voltage Engineering
EEDLO7032	Electric Vehicle Technology
EEDLO7033	Industrial Controller
EEDLO7034	Power Quality

Course Code	Department Level Optional Course - IV
EEDLO8041	Illumination Engineering
EEDLO8042	Smart Grid
EEDLO8043	Power System Modeling and Control
EEDLO8044	Power System Planning and Reliability

List of Institute Level Optional Courses

Course Code	Institute Level Optional Course - I
ILO7011	Product Lifecycle Management
ILO7012	Reliability Engineering
ILO7013	Management Information System
ILO7014	Design of Experiments
ILO7015	Operation Research
ILO7016	Cyber Security and Laws
ILO7017	Disaster Management and Mitigation Measures
ILO7018	Energy Audit and Management
ILO7019	Development Engineering

Course Code	Institute Level Optional Course - II
ILO8021	Project Management
ILO8022	Finance Management
ILO8023	Entrepreneurship Development and Management
ILO8024	Human Resource Management
ILO8025	Professional Ethics and Corporate Social Responsibility (CSR)
ILO8026	Research Methodology
ILO8027	IPR and Patenting
ILO8028	Digital Business Management
ILO8029	Environmental Management

TRUE COPY

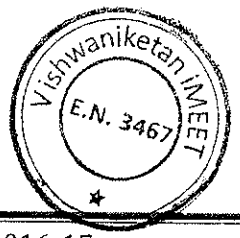
Principal
Vishwaniketan's (i MEET)

Vishwaniketan iMEET E.N. 3467

Program Structure for
BE Electrical Engineering
University of Mumbai
(With Effect from 2019-20)

Scheme for Semester VIII

Course Code	Course Name	Teaching Scheme (Contact Hours)			Credits Assigned			
		Theory	Practical	Tutorial	Theory	Practical	Tutorial	Total
EEC801	Design, Management and Auditing of Electrical Systems	4	-	1	4	-	1	5
EEC802	Flexible AC Transmission System	4	-	-	4	-	-	4
EEDLO804X	Department Level Optional Course-IV	3	-	1	3	-	1	4
ILO802X	Institute Level Optional Course-II	3	-	-	3	-	-	3
EEL801	Simulation Lab - IV	-	2	-	-	1	-	1
EEL802	Electrical System Design Lab		2	-	-	1	-	1
EEL803	Project-II	-	12	-	-	6	-	6
Total		**14**	**16**	**2**	**14**	**8**	**2**	**24**



Semester VII

Course Code	Course Name	Teaching Scheme (Contact Hours)			Credits Assigned		
		Theory	Pracs	Tut	Theory	TW/ Pracs	Total
ECC701	Microwave Engineering	4	-	-	4	-	4
ECC702	Mobile Communication System	4	-	-	4	-	4
ECC703	Optical Communication	4	-	--	4	-	4
ECCDLO 703X	Department Level Optional Course III	4	-	-	4	-	4
ILO701X	Institute Level Optional Course I	3	-	-	3	-	3
ECL701	Microwave Engineering Lab	-	2	-	-	1	1
ECL702	Mobile Communication System Lab	-	2	-	-	1	1
ECL703	Optical Communication Lab	-	2	-	-	1	1
ECLDLO 703X	Department Level Optional Lab III	-	2	-	-	1	1
ECL704	Project-I	-	6	-	-	3	3
Total		**19**	**14**	**-**	**19**	**7**	**26**

Course Code	Course Name	Examination Scheme							
		Theory					TW	Oral & Prac	Total
		Internal Assessment			End Sem Exam	Exam Duration (Hrs)			
		Test1	Test 2	Avg					
ECC701	Microwave Engineering	20	20	20	80	03	--	--	100
ECC702	Mobile Communication System	20	20	20	80	03	--	--	100
ECC703	Optical Communication	20	20	20	80	03	--	--	100
ECCDLO 703X	Department Level Optional Course III	20	20	20	80	03	--	--	100
ILO701X	Institute Level Optional Course I	20	20	20	80	03	--	--	100
ECL701	Microwave Engineering Lab	--	--	--	--	--	25	25	50
ECL702	Mobile Communication System Lab	--	--	--	--	--	25	25	50
ECL703	Optical Communication Lab	--	--	--	--	--	25	25	50
ECLDLO 703X	Department Level Optional Lab III	--	--	--	--	--	25	25	50
ECL704	Project-I	--	--	--	--	--	50	50	100
Total				**100**	**400**		**150**	**150**	**800**

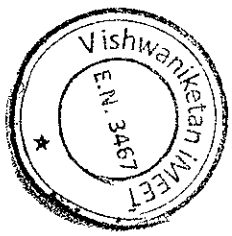
TRUE COPY

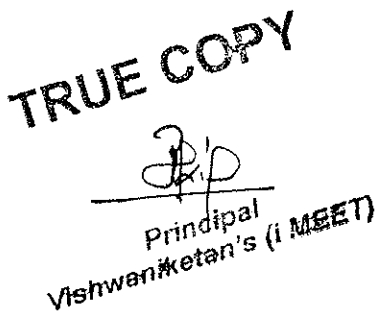
Principal
Vishwaniketan's (i MEET)

Vishwaniketan iMEET E.N. 3467

Course Code	Department Level Optional Course III	Course Code	Institute Level Optional Course I#
ECCDLO7031	Neural Networks and Fuzzy Logic	ILO7011	Product Lifecycle Management
ECCDLO7032	Big Data Analytics	ILO7012	Reliability Engineering
ECCDLO7033	Internet Communication Engineering	ILO7013	Management Information System
ECCDLO7034	CMOS Mixed Signal VLSI	ILO7014	Design of Experiments
ECCDLO7035	Embedded System	ILO7015	Operation Research
		ILO7016	Cyber Security and Laws
		ILO7017	Disaster Management and Mitigation Measures
		ILO7018	Energy Audit and Management
		ILO7019	Development Engineering

 # Common with all branches





Semester VIII

Course Code	Course Name	Teaching Scheme (Contact Hours)			Credits Assigned		
		Theory	Pracs	Tut	Theory	TW/ Pracs	Total
ECC801	RF Design	4	-	--	4	--	4
ECC802	Wireless Networks	4	-	-	4	-	4
ECCDLO 804X	Department Level Optional Course IV	4	-	-	4	-	4
ILO802X	Institute Level Optional Course II	3	-	-	3	-	3
ECL801	RF Design Lab	-	2	-	-	1	1
ECL802	Wireless Networks Lab	-	2	-	-	1	1
ECLDLO 804X	Department Level Optional Lab IV	-	2	-	-	1	1
ECL803	Project-II	-	12	-	-	6	6
Total		**15**	**18**	**-**	**15**	**9**	**24**

Course Code	Course Name	Examination Scheme							
		Theory					TW	Oral & Prac	Total
		Internal Assessment			End Sem Exam	Exam Duration (Hrs)			
		Test1	Test 2	Avg					
ECC801	RF Design	20	20	20	80	03	--	--	100
ECC802	Wireless Networks	20	20	20	80	03	--	--	100
ECCDLO 804X	Department Level Optional Course IV	20	20	20	80	03	--	--	100
ILO802X	Institute Level Optional Course II	20	20	20	80	03	--	--	100
ECL801	RF Design Lab	--	--	--	--	--	25	25	50
ECL802	Wireless Networks Lab	--	--	--	--	--	25	25	50
ECLDLO 804X	Department Level Optional Lab IV	--	--	--	--	--	25	25	50
ECL803	Project-II	--	--	--	--	--	100	50	150
Total				**80**	**320**		**175**	**125**	**700**

Course Code	Department Level Elective Course IV	Course Code	Institute Level Elective Course II#
ECCDLO8041	Optical Networks	ILO8021	Project Management
ECCDLO8042	Advanced Digital Signal Processing	ILO8022	Finance Management
ECCDLO8043	Satellite Communication	ILO8023	Entrepreneurship Development and Management
ECCDLO8044	Network management in Telecommunication	ILO8024	Human Resource Management
		ILO8025	Professional Ethics and CSR
		ILO8026	Research Methodology
		ILO8027	IPR and Patenting
		ILO8028	Digital Business Management
		ILO8029	Environmental Management

 # Common with all branches

Semester VII

Course Code	Course Name	Teaching Scheme (Contact Hours)		Credits Assigned		
		Theory	Pract	Theory	Pract	Total
MEC701	Machine Design II	04	--	04	--	04
MEC702	CAD/CAM/CAE	04	--	04	--	04
MEC703	Production Planning and Control	04	--	04	--	04
MEDLO 703X	Department Level Optional Course III	04	--	04	--	04
ILO701X	Institute Level Optional Course I#	03	--	03	--	03
MEL701	Machine Design II	--	02	--	01	01
MEL702	CAD/CAM/CAE	--	02	--	01	01
MEL703	Production Planning and Control	--	02	--	01	01
MEL704	Project I	--	06	--	03	03
Total		**19**	**12**	**19**	**06**	**25**

Course Code	Course Name	Examination Scheme							
		Theory					Term Work	Pract/ Oral	Tot
		Internal Assessment			End Sem Exam	Exam Duration (Hrs)			
		Test1	Test 2	Avg					
MEC701	Machine Design II	20	20	20	80	03	--	--	10(
MEC702	CAD/CAM/CAE	20	20	20	80	03	--	--	10(
MEC703	Production Planning and Control	20	20	20	80	03	--	--	10(
MEDLO 703X	Department Level Optional Course III	20	20	20	80	03	--	--	10(
ILO701X	Institute Level Optional Course I#	20	20	20	80	03	--	--	10(
MEL701	Machine Design II	--	--	--	--	--	25	25	50
MEL702	CAD/CAM/CAE	--	--	--	--	--	25	25	50
MEL703	Production Planning and Control	--	--	--	--	--	25	25	50
MEP701	Project I	--	--	--	--	--	50	--	50
Total				**100**	**400**		**125**	**75**	**70(

Course Code	Department Level Optional Course III	Course Code	Institute Level Optional Course I#
MEDLO7031	Mechanical Vibrations	ILO7011	Product Lifecycle Management
MEDLO7032	Automobile Engineering	ILO7012	Reliability Engineering
MEDLO7033	Pumps, Compressors and Fans	ILO7013	Management Information System
MEDLO7034	Computational Fluid Dynamics	ILO7014	Design of Experiments
		ILO7015	Operation Research
		ILO7016	Cyber Security and Laws
		ILO7017	Disaster Management and Mitigation Measures
		ILO7018	Energy Audit and Management
		ILO7019	Development Engineering

 # Common with all branches

Semester VIII

Course Code	Course Name	Teaching Scheme (Contact Hours)		Credits Assigned		
		Theory	Pract	Theory	Pract	Total
MEC801	Design of Mechanical Systems	04	--	04	--	04
MEC802	Industrial Engineering and Management	04	--	04	--	04
MEC803	Power Engineering	04	--	04	--	04
MEDLO 804X	Department Level Optional Course IV	04	--	04	--	04
ILO802X	Institute Level Optional Course II#	03	--	03	--	03
MEL801	Design of Mechanical Systems	--	02	--	01	01
MEL802	Power Engineering	--	02	--	01	01
MEP801	Project II	--	12	--	06	06
Total		**19**	**16**	**19**	**08**	**27**

Course Code	Course Name	Examination Scheme							
		Theory							
		Internal Assessment			End Sem Exam	Exam Duration (Hrs)	Term Work	Pract/ Oral	Tot
		Test1	Test 2	Avg					
MEC801	Design of Mechanical Systems	20	20	20	80	03	--	--	10(
MEC802	Industrial Engineering and Management	20	20	20	80	03	--	--	10(
MEC803	Power Engineering	20	20	20	80	03	--	--	10(
MEDLO 804X	Department Level Optional Course IV	20	20	20	80	03	--	--	10(
ILO802X	Institute Level Optional Course II#	20	20	20	80	03	--	--	10(
MEL801	Design of Mechanical Systems	--	--	--	--	--	25	25	50
MEL802	Power Engineering	--	--	--	--	--	25	25	50
MEL803	Project II	--	--	--	--	--	50	100	15(
Total				**100**	**400**		**100**	**150**	**75(

Course Code	Department Level Elective Course IV	Course Code	Institute Level Elective Course II#
MEDLO8041	Power Plant Engineering	ILO8021	Project Management
MEDLO8042	Rapid Prototyping	ILO8022	Finance Management
MEDLO8043	Renewable Energy Systems	ILO8023	Entrepreneurship Development and Management
MEDLO8044	Energy Management in Utility Systems	ILO8024	Human Resource Management
		ILO8025	Professional Ethics and CSR
		ILO8026	Research Methodology
		ILO8027	IPR and Patenting
		ILO8028	Digital Business Management
		ILO8029	Environmental Management

 # Common with all branches