

University of Mumbai



No. AAMS (UG)/74 of 2021-22

CIRCULAR :-

Attention of the Principals of the Affiliated Colleges, Directors of the recognized Institutions in Faculty of Science & Technology is invited to this office circular No. UG/44 of 2018-19 dated 25th June, 2018 relating to the revised syllabus as per the (CBCS) for T.E. in Civil Engineering (Sem - V & VI).

They are hereby informed that the recommendations made by the Board of Studies in Civil Engineering at its meeting held on 27th April, 2021 and subsequently made by the Board of Deans at its meeting held on 11th June, 2021 vide item No. 6.2 (R) have been accepted by the Academic Council at its meeting held on 29th June, 2021 vide item No. 6.2 (R) and that in accordance therewith, the revised syllabus (Rev-2019 'C' Scheme) for the B.E. in Civil Engineering (T.E. - Sem. V & VI) has been brought into force with effect from the academic year 2021-22. (The same is available on the University's website www.mu.ac.in).

MUMBAI 400 032

30th September, 2021

To


(Dr. B.N. Gaikwad)
I/c REGISTRAR

The Principals of the Affiliated Colleges and Directors of the recognized Institutions in

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

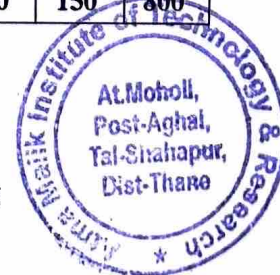
Examination Scheme

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
CEDLO501X	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.

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

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					150	150	800



\$ 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

University of Mumbai



No. AAMS_UGS/ICC/2022-23/109

CIRCULAR :-

Attention of the Principals of the Affiliated Colleges and Directors of the recognized Institutions in Faculty of Science & Technology is invited to this office circular No. UC/44 of 2019-20 dated 9th July, 2019 relating to the revised syllabus of **B.E. (Civil Engineering)** (Sem. - VII & VIII) **(CBCGS)**

They are hereby informed that the recommendations made by the Board of Studies in Civil Engineering at its meeting held on 06th June, 2022 and subsequently passed in the Faculty and then by the Board of Deans at its meeting held on 5th July, 2022 vide item No. 6.16 (R) have been accepted by the Academic Council at its meeting held on 11th July, 2022 vide item No. 6.16 (R) and that in accordance therewith, the revised syllabus of B.E. (Civil Engineering) (Sem. - VII & VIII) (CBCS) Final Year (Rev-2019 'C' Scheme) has been brought into force with effect from the academic year 2022-23. (The circular is available on the University's website www.mu.ac.in).

MUMBAI - 400 032
20th October, 2022


(Dr. Shailendra Deolankar)
I/c Registrar

To

The Principals of the Affiliated Colleges and Directors of the recognized Institutions in Faculty of Science & Technology.

A.C/6.16(R)/11/07/2022

No. AAMS_UGS/ICC/2022-23/109

20th October, 2022

Copy forwarded with Compliments for information to:-

- 1) The Dean, Faculty of Science & Technology,
- 2) The Chairman, Board of Studies in Civil Engineering,
- 3) The Director, Board of Examinations and Evaluation,
- 4) The Director, Board of Students Development,
- 5) The Director, Department of Information & Communication Technology,
- 6) The Co-ordinator, MKCL.


(Dr. Shailendra Deolankar)
I/c Registrar

Desktop/Circular of Engineering/Priya



AC – 11 July, 2022
Item No. – 6.16 (R)

University of Mumbai



**Revised Syllabus for
B.E. (Civil Engineering)
(Sem. - VII and VIII)**

(Choice Based Credit System)

(With effect from the academic year 2022-23)

Program Structure for Third Year Engineering
Semester VII & VIII
UNIVERSITY OF MUMBAI
(With Effect from 2022-2023)
Semester - VII

Course Code	Course Name	Teaching Scheme (Contact Hours)			Credit Assigned			
		Theory	Pract.	Tut.	Theory	Pract.	Tut.	Total
CEC701	Design & Drawing of Reinforced Concrete Structures	03	-	-	03	-	-	03
CEC702	Quantity Survey, Estimation and Valuation	03	-	-	03	-	-	03
CEDLO701X	Department Level Optional Course – 3	03	-	-	03	-	-	03
CEDLO702X	Department Level Optional Course – 4	03	-	-	03	-	-	03
CEILO701X	Institute Level Optional Course – 1	03	-	-	03	-	-	03
CEL701	Design & Drawing of Reinforced Concrete Structures	-	02	-	-	01	-	01
CEL702	Quantity Survey, Estimation and Valuation	-	02	-	-	01	-	01
CEP701	Major Project – I	-	06 ^{\$}	-	-	03	-	03
Total		15	10	-	15	05	-	20

Examination Scheme									
Course Code	Course Name	Internal Assessment			End Sem Exam	Exam Duration (Hrs.)	Term Work	Pract /Oral	Total
		Test - I	Test - II	Avg.					
CEC701	Design & Drawing of Reinforced Concrete Structure	20	20	20	80	04	-	-	100
CEC702	Quantity Survey, Estimation and Valuation	20	20	20	80	04	-	-	100
CEDLO701X	Department Level Optional Course – 3	20	20	20	80	03	-	-	100
CEDLO702X	Department Level Optional Course – 4	20	20	20	80	03	-	-	100
CEILO701X	Institute Level Optional Course – 1	20	20	20	80	03	-	-	100
CEL701	Design & Drawing of Reinforced Concrete Structure	-	-	-	-	-	25	25	50
CEL702	Quantity Survey, Estimation and Valuation	-	-	-	-	-	25	25	50
CEP701	Major Project – I	-	-	-	-	-	50	-	50
Total		100			400			50	650

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



3	CEILO7013	
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Undergraduate Program Structure for Final year Civil Engineering
University of Mumbai
 (With Effect from A.Y. 2022-2023)
Semester VIII

Course Code	Course Name	Teaching Scheme (Contact Hours)			Credit Assigned			
		Theory	Pract.	Tut.	Theory	Pract.	Tut.	Total
CEC801	Construction Management	03	-	-	03	-	-	03
CEDLO801X	Department Level Optional Course – 5	03	-	-	03	-	-	03
CEDLO802X	Department Level Optional Course – 6	03	-	-	03	-	-	03
CEILO801X	Institute Level Optional Course – 2	03	-	-	03	-	-	03
CEL801	Construction Management	-	02	-	-	01	-	01
CEP801	Major Project – II	-	12 ^{\$}	-	-	06	-	06
Total		12	14	-	12	07	-	19

Examination Scheme									
Course Code	Course Name	Internal Assessment			End Sem Exam	Exam Duration (Hrs.)	Term Work	Pract. /Oral	Total
		Test - I	Test - II	Avg.					
CEC801	Construction Management	20	20	20	80	03	-	-	100
CEDLO801X	Department Level Optional Course – 5	20	20	20	80	03	-	-	100
CEDLO802X	Department Level Optional Course – 6	20	20	20	80	03	-	-	100
CEILO801X	Institute Level Optional Course – 2	20	20	20	80	03	-	-	100
CEL801	Construction Management	-	-	-	-	-	25	25	50
CEP801	Major Project – II	-	-	-	-	-	50	100	150
Total		80			320	-	75	125	600

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



Undergraduate Program Structure for Final year Civil Engineering

University of Mumbai

(With Effect from A. Y. 2022-2023)

Semester - VII

Department Level Optional Course – 3

Sr. No.	Course Code CEDLO701X	Department Level Optional Course – 3
1	CEDLO7011	Prestressed Concrete
2	CEDLO7012	Applied Hydrology and Flood Control
3	CEDLO7013	Appraisal and Implementation of Infra Projects
4	CEDLO7014	Analysis of Offshore Structures
5	CEDLO7015	Advanced Construction Technology
6	CEDLO7016	Pavement Materials Construction and Maintenance

Department Level Optional Course – 4

Sr. No.	Course Code CEDLO702X	Department Level Optional Course – 4
1	CEDLO7021	Foundation Analysis and Design
2	CEDLO7022	Solid hazardous waste management
3	CEDLO7023	Ground Improvement techniques
4	CEDLO7024	Green building constructions
5	CEDLO7025	Legal Aspects in constructions
6	CEDLO7026	Environmental impact assessment
7	CEDLO7027	Advanced Steel Structures

Institute Level Optional Course – I

Sr. No.	Course Code CEILO701X	Institute Level Optional Course – I
1	CEILO7011	
2	CEILO7012	



Undergraduate Program Structure for Final year Civil Engineering

University of Mumbai

(With Effect from A. Y. 2022-2023)

Semester VIII

Department Level Optional Course – 5

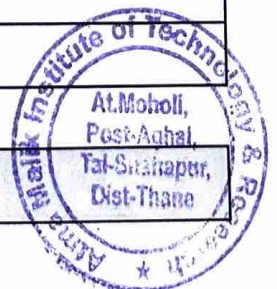
Sr. No.	Course Code CEDLO801X	Department Level Optional Course – 5
1	CEDLO8011	Bridge Engineering
2	CEDLO8012	Design of Hydraulics Structures
4	CEDLO8013	Construction Safety
5	CEDLO8014	Pavement Design
6	CEDLO8015	Industrial Waste Treatment
7	CEDLO8016	Soil Dynamics

Department Level Optional Course – 6

Sr. No.	Course Code CEDLO802X	Department Level Optional Course – 6
1	CEDLO8021	Repairs, Rehabilitation and Retrofitting of structures
2	CEDLO8022	Physio-Chemical Properties of Waste And Sewage Water
3	CEDLO8023	Transportation System Engineering
4	CEDLO8024	Smart Building Materials
5	CEDLO8025	Structural Dynamics
6	CEDLO8026	Ground Water Engineering

Institute Level Optional Course-2

Sr. No.	Course Code CEILO801X	Institute Level Optional Course-2
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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)



SBL -
PR

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							Total
		Theory					Term Work	Prac/ Oral	
		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 - II	--	--	--	--	--	25	25	50
MEPBL501	Mini Project - 2 A	--	--	--	--	--	25	25	50
Total		--	--	100	400	125	100	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

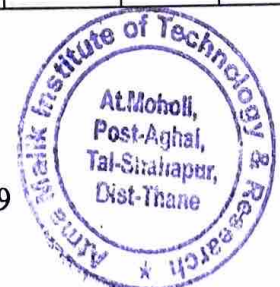


Semester VI

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 ^s	--	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
MEDLO602X	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;



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



University of Mumbai



No. AAMS(UG)/ 130 of 2022-23

CIRCULAR:-

Attention of the Principals of the Affiliated Colleges and Directors of the Recognized Institutions in Faculty of Science & Technology is invited to this office circular No. UG/167 of 2017-18 dated 8th August, 2017, relating to the revised syllabus as per (CBCS) for Bachelor of Engineering (Mechanical Engineering) (Sem. III & VIII) be revised for S.E. (Sem. III & IV) from Academic Year 2017-18, Third Year (Sem. V & VI) from Academic Year 2018-19 and Bachelor of Engineering (Sem. VII & VIII) from Academic Year 2019-20.

You are hereby informed that the recommendations made by the Board of Studies in Mechanical Engineering at its meeting held on 31st May, 2022 and subsequently passed in the Faculty and then by the Board of Deans at its meeting held on 5th July, 2022 vide item No. 6.45 (R) have been accepted by the Academic Council at its meeting held on 11th July, 2022 vide item No. 6.45 (R) and that in accordance therewith, the revised syllabus of B.E. (Mechanical Engineering) (Sem.- VII & VIII) (CBCS), has been brought into force with effect from the academic year 2022-23. (The circular is available on the University's website www.mu.ac.in).

MUMBAI - 400 032

20th October, 2022

(Dr. Shailendra Deolankar)
I/c Registrar

To

The Principals of the Affiliated Colleges and Directors of the Recognized Institutions in Faculty of Science & Technology.

A.C/6.45 (R)/11/07/2022

No. AAMS(UG)/ 130 -A of 2022-23

20th October, 2022

Copy forwarded with Compliments for information to:-

- 1) The Dean, Faculty of Science & Technology,
- 2) The Chairman, Board of Studies in Mechanical Engineering,
- 3) The Director, Board of Examinations and Evaluation,
- 4) The Director, Board of Students Development,
- 5) The Director, Department of Information & Communication Technology,
- 6) The Co-ordinator, MKCL.

(Dr. Shailendra Deolankar)
I/c Registrar



AC – 11 July, 2022
Item No. – 6.45 (R)

University of Mumbai



**Revised Syllabus for
B.E. (Mechanical Engineering)
Semester – (VII & VIII)
(Choice Based Credit System)**

(With effect from the academic year 2022-23)



Program Structure for Final Year Engineering
Semester VII & VIII
UNIVERSITY OF MUMBAI
(With Effect from 2021-2022)
Semester VII

Course Code	Course Name	Teaching Scheme (Contact Hours)		Credits Assigned		
		Theory	Pract. Tut.	Theory	Pract.	Total
MEC701	Design of Mechanical System	4	--	4	--	4
MEC702	Logistics and Supply Chain Management	3	--	3		3
MEDLO703X	Department Level Optional Course – 3	3	--	3	--	3
MEDLO704X	Department Level Optional Course – 4	3	--	3	--	3
ILO701X	Institute Level Optional Course – I*	3	--	3	--	3
MEL701	Design of Mechanical System	--	2	--	1	1
MEL702	Maintenance Engineering	--	2	--	1	1
MEL703	Industrial Skills	--	2	--	1	1
MEP701	Major Project I	--	6 [#]	--	3	3
Total		16	12	16	6	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					
MEC701	Design of Mechanical System	20	20	20	80	3	--	--	100
MEC702	Logistics and Supply Chain Management	20	20	20	80	3	--	--	100
MEDLO703X	Department Level Optional Course – 3	20	20	20	80	3	--	--	100
MEDLO704X	Department Level Optional Course – 4	20	20	20	80	3	--	--	100
ILO701X	Institute Level Optional Course – I*	20	20	20	80	3	--	--	100
MEL701	Design of Mechanical System	--	--	--	--	--	25	25	50
MEL702	Maintenance Engineering	--	--	--	--	--	25	25	50
MEL703	Industrial Skills	--	--	--	--	--	25	25	50
MEP701	Major Project I	--	--	--	--	--	50	--	50
Total		--	--	100	400	--	125	75	700

indicates work load of Learner Not Faculty for Major Project

* Common with all branches

University of Mumbai



B. E. (Mechanical Engineering), Rev 2019

Semester VIII

Course Code	Course Name	Teaching Scheme (Contact Hours)		Credits Assigned		
		Theory	Pract./Tut.	Theory	Pract.	Total
MEC801	Operations Planning and Control	3	--	3	--	3
MEDLO805X	Department Level Optional Course – 5	3	--	3	--	3
MEDLO806X	Department Level Optional Course – 6	3	--	3	--	3
ILO802X	Institute Level Optional Course – 2*	3	--	3	--	3
MEL801	Product Design and Development	--	2	--	1	1
MEL802	Laboratory based on IoT	--	2	--	1	1
MEP801	Major Project II	--	12 [#]	--	6	6
Total		12	16	12	8	20

Course Code	Course Name	Examination Scheme							
		Theory					Term Work	Prac./Oral	Total
		Internal Assessment			End Sem Exam	Exam. Duration (Hrs)			
		Test1	Test2	Avg					
MEC801	Operations Planning and Control	20	20	20	80	3	--	--	100
MEDLO805X	Department Level Optional Course – 5	20	20	20	80	3	--	--	100
MEDLO806X	Department Level Optional Course – 6	20	20	20	80	3	--	--	100
ILO802X	Institute Level Optional Course – 2*	20	20	20	80	3	--	--	100
MEL801	Product Design and Development	--	--	--	--	--	25	25	50
MEL802	Laboratory based on IoT	--	--	--	--	--	25	25	50
MEP801	Major Project II	--	--	--	--	--	100	50	150
Total		--	--	80	320	--	150	100	650

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

* Common with all branches

Students group and load of faculty per week.

Major Project 1 and 2:

Students can form groups with minimum 2 (Two) members and not more than 4 (Four) members

Faculty Load: In Semester VII – ½ hour per week per project group

In Semester VIII – 1 hour per week per project group



Department Optional Courses

Course Code	Sem. VII: Department Optional Course- 3	Course Code	Sem. VII: Department Optional Course - 4
MEDLO7031	Automotive Power Systems	MEDLO7041	Machinery Diagnostics
MEDLO7032	Renewable Energy Systems	MEDLO7042	Vibration Controls
MEDLO7033	Vehicle Systems	MEDLO7043	Advanced Vibration

Course Code	Sem. VIII: Department Optional Course- 5	Course Code	Sem. VIII: Department Optional Course - 6
MEDLO8051	Composite Materials	MEDLO8061	Product Design and Development
MEDLO8052	Smart Materials	MEDLO8062	Design for X
MEDLO8053	Micro Electro Mechanical Systems	MEDLO8063	Total Quality Management

Institute Optional Courses

Course Code	Institute Optional Course-I #	Course Code	Institute Elective Course-II #
ILO7011	Product Lifecycle Management	ILO8021	Project Management
ILO7012	Reliability Engineering	ILO8022	Finance Management
ILO7013	Management Information System	ILO8023	Entrepreneurship Development and Management

Syllabus upload as per letter
University of Mumbai No. AAMS/1ED/290, dt. 15-11-21



No. AAMS(UG)/87 of 2021-22

CIRCULAR:-

Attention of the Principals of the Affiliated Colleges and Directors of the Recognized Institutions in Faculty of Science & Technology is invited to this office circular No. UG/39 of 2018-19, dated 22nd June, 2018 relating to the revised syllabus as per (CBCS) for the T.E. & B.E. in Computer Engineering (Sem - V to VIII).

They are hereby informed that the recommendations made by the Ad-hoc Board of Studies in Computer Engineering at its meeting held on 11th May, 2021 and subsequently passed by the Board of Deans at its meeting held on 11th June, 2021 vide item No. 6.15 (R) have been accepted by the Academic Council at its meeting held on 29th June, 2021 vide item No. 6.15 (R) and that in accordance therewith, the revised syllabus (Rev - 2019 'C' Scheme) for the B.E. in Computer Engineering (T.E. - Sem. V and VI.) has been brought into force with effect from the academic year 2021-22 accordingly. (The same is available on the University's website www.mu.ac.in).

MUMBAI - 400 032
30th September, 2021


(Dr. B.N. Gaikwad)
I/c REGISTRAR

To

The Principals of the Affiliated Colleges and Directors of the Recognized Institutions in Faculty of Science & Technology.

A.C/6.15 (R) 29/06/2021

No. AAMS(UG)/ 87-A of 2021-22

MUMBAI-400 032

30th September, 2021

Copy forwarded with Compliments for information to:-

- 1) The Dean, Faculty of Science & Technology.
- 2) The Chairman, Ad-hoc Board of Studies in Computer Engineering.
- 3) The Director, Board of Examinations and Evaluation.
- 4) The Director, Board of Students Development.
- 5) The Co-ordinator, University Computerization Centre.




(Dr. B.N. Gaikwad)
I/c REGISTRAR

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)

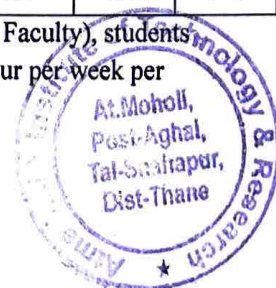


Program Structure for Third Year Computer Engineering
UNIVERSITY OF MUMBAI (With Effect from 2021-2022)

Semester V

Course Code	Course Name	Teaching Scheme (Contact Hours)		Credits Assigned					
		Theory	Pract.	Theory	Pract.	Tuto	Total		
CSC501	Theoretical Computer Science	3	--	3	--	1	4		
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	Professional Comm. & Ethics II	--	2*+2	--	2	--	2		
CSM501	Mini Project: 2 A	--	4 ^s	--	2	--	2		
Total		15	14	15	07	01	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					
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	Professional Comm. & Ethics II	--	--	--	--	--	25	25	50
CSM501	Mini Project : 2A	--	--	--	--	--	25	25	50
Total		--	--	100	400	--	150	125	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.



**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	50	75
Total		--	--	100	400	--	175	75	250



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

Department Optional Courses

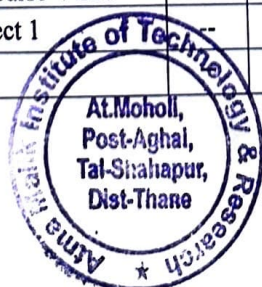
Department Level Optional Courses	Semester	Code & Course
Department Level Optional Course -1	V	CSDLO5011: Probabilistic Graphical Models CSDLO5012: Internet Programming CSDLO5013: Advance Database Management System
Department Level Optional Course -2	VI	CSDLO6011: Internet of Things CSDLO6012: Digital Signal & Image Processing CSDLO6013: Quantitative Analysis



Program Structure for Fourth Year Computer Engineering
UNIVERSITY OF MUMBAI (With Effect from 2022-2023)

Semester VII

Course Code	Course Name	Teaching Scheme (Contact Hours)		Credits Assigned					
		Theory	Pract. Tut.	Theory	Pract.	Total			
CSC701	Machine Learning	3	--	3	--	3			
CSC702	Big Data Analytics	3	--	3	--	3			
CSDC 701X	Department Level Optional Course-3	3	--	3	--	3			
CSDC 702X	Department Level Optional Course-4	3	--	3	--	3			
ILO 701X	Institute Level Optional Course-1	3	--	3	--	3			
CSL701	Machine Learning Lab	--	2	--	1	1			
CSL702	Big Data Analytics Lab	--	2	--	1	1			
CSDL 701X	Department Level Optional Course-3 Lab	--	2	--	1	1			
CSDL 702X	Department Level Optional Course-4 Lab	--	2	--	1	1			
CSP701	Major Project 1	--	6 [#]	--	3	3			
Total		15	14	15	7	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					
CSC701	Machine Learning	20	20	20	80	3	--	--	100
CSC702	Big Data Analysis	20	20	20	80	3	--	--	100
CSDC 701X	Department Level Optional Course-3	20	20	20	80	3	--	--	100
CSDC 702X	Department Level Optional Course-4	20	20	20	80	3	--	--	100
ILO 701X	Institute Level Optional Course-1	20	20	20	80	3	--	--	100
CSL701	Machine Learning Lab	--	--	--	--	--	25	25	50
CSL702	Big Data Analytics Lab	--	--	--	--	--	25	25	50
CSDL 701X	Department Level Optional Course-3 Lab	--	--	--	--	--	25	-	25
CSDL 702X	Department Level Optional Course-4 Lab	--	--	--	--	--	25	-	25
CSP701	Major Project 1	--	--	--	--	--	50	25	75
Total		--	--	100	400	--	150	75	725



Program Structure for Fourth Year Computer Engineering
UNIVERSITY OF MUMBAI (With Effect from 2022-2023)

Semester VIII

Course Code	Course Name	Teaching Scheme (Contact Hours)		Credits Assigned					
		Theory	Pract. Tut.	Theory	Pract.	Total			
CSC801	Distributed Computing	3	--	3	--	3			
CSDC 801X	Department Level Optional Course -5	3	--	3	--	3			
CSDC 802X	Department Level Optional Course -6	3	--	3	--	3			
ILO 801X	Institute Level Optional Course -2	3	--	3	--	3			
CSL801	Distributed Computing Lab	--	2	--	1	1			
CSDL 801X	Department Level Optional Course -5 Lab	--	2	--	1	1			
CSDL 802X	Department Level Optional Course -6 Lab	--	2	--	1	1			
CSP801	Major Project 2	--	12 [#]	--	6	6			
Total		12	18	12	9	21			
Examination Scheme									
Course Code	Course Name	Theory			End Sem Exam	Exam Duration (in Hrs)	Term Work	Pract & oral	Total
		Internal Assessment							
		Test 1	Test 2	Avg					
CSC801	Distributed Computing	20	20	20	80	3	--	--	100
CSDC 801X	Department Level Optional Course -5	20	20	20	80	3	--	--	100
CSDC 802X	Department Level Optional Course -6	20	20	20	80	3	--	--	100
ILO 801X	Institute Level Optional Course -2	20	20	20	80	3	--	--	100
CSL801	Distributed Computing Lab	--	--	--	--	--	25	25	50
CSDL 801X	Department Level Optional Course -5 Lab	--	--	--	--	--	25	25	50
CSDL 802X	Department Level Optional Course -6 Lab	--	--	--	--	--	25	25	50
CSP801	Major Project- 2	--	--	--	--	--	100	50	150
Total		--	--	80	320	--	175	125	700

Major Project 1 and 2 :

- Students can form groups with minimum 2 (Two) and not more than 4 (Four)
- Faculty Load : In Semester VII – ½ hour per week per project group
In Semester VIII – 1 hour per week per project group



Program Structure for Computer Engineering

UNIVERSITY OF MUMBAI (With Effect from 2022-2023)

Department and Institute Optional Courses and Labs

Semester	Department/ Institute Optional Courses and Labs	Subject
VII	Department Optional Course -3	CSDC7011: Machine Vision CSDC7012: Quantum Computing CSDC7013: Natural Language Processing
	Department Optional Lab -3	CSDL7011: Machine Vision Lab CSDL7012: Quantum Computing Lab CSDL7013: Natural Language Processing Lab
	Department Optional Course -4	CSDC7021 : Augmented and Virtual Reality CSDC7022 : Block Chain CSDC7023 : Information Retrieval
	Department Optional Lab -4	CSDL7021 : Augmented and Virtual Reality Lab CSDL7022 : Block Chain Lab CSDL7023 : Information Retrieval Lab
	Institute level Optional Courses-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 & Mitigation Measures ILO7018. Energy Audit and Management ILO7019. Development Engineering

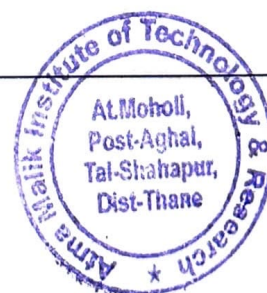


Program Structure for Computer Engineering

UNIVERSITY OF MUMBAI (With Effect from 2022-2023)

Department and Institute Optional Courses and Labs

Semester	Department/ Institute Optional Courses and Labs	Subject
VIII	Department Optional Course -5	CSDC8011 : Deep Learning CSDC8012 : Digital Forensic CSDC8013 : Applied Data Science
	Department Optional Lab -5	CSDL8011 : Deep Learning Lab CSDL8012 : Digital Forensic Lab CSDL8013 : Applied Data Science Lab
	Department Optional Course -6	CSDC8021 : Optimization in Machine Learning CSDC8022: High Performance Computing CSDC8023: Social Media Analytics
	Department Optional Lab -6	CSDL8021 : Optimization in Machine Learning Lab CSDL8022: High Performance Computing Lab CSDL8023: Social Media Analytics Lab
	Institute level Optional Courses-II	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



University of Mumbai



No. AAMS_UGS/ICC/2022-23/118

CIRCULAR :-

Attention of the Principals of the Affiliated Colleges and Directors of the recognized Institutions in Faculty of Science & Technology is invited to this office circular No.UG/42 of 2018-19 dated 25th June, 2018 relating to the revised syllabus for the T.E. & B.E. in **Electronics & Telecommunication Engineering (Sem. - V to VIII) (CBCS)**.

They are hereby informed that the recommendations made by the Ad-hoc Board of Studies in Electronics and Telecommunication Engineering at its meeting held on 11th May, 2022 and subsequently passed in the Faculty and then by the Board of Deans at its meeting held on 5th July, 2022 vide item No. 6.30 (R) have been accepted by the Academic Council at its meeting held on 11th July, 2022 vide item No. 6.30 (R) and that in accordance therewith, the revised syllabus of B.E. **Electronics and Telecommunication Engineering (Sem. - VII & VIII) (CBCS) (REV-2019 'C' Scheme)** has been brought into force with effect from the academic year 2022-23. (The circular is available on the University's website www.mu.ac.in).

MUMBAI - 400 032
20th October, 2022


(Dr. Shailendra Deolankar)
I/c Registrar

To:

The Principals of the Affiliated Colleges and Directors of the recognized Institutions in Faculty of Science & Technology.

A.C/6.30(R)/11/07/2022

No. AAMS_UGS/ICC/ 2022-23/ 118

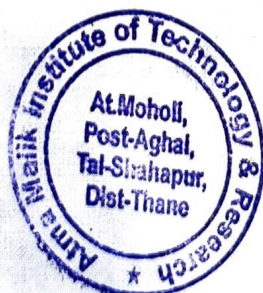
20th October, 2022

Copy forwarded with Compliments for information to:-

- 1) The Dean, Faculty of Science & Technology,
- 2) The Chairman, Ad-hoc Board of Studies in Electronics and Telecommunication Engineering,
- 3) The Director, Board of Examinations and Evaluation,
- 4) The Director, Board of Students Development,
- 5) The Director, Department of Information & Communication Technology,
- 6) The Co-ordinator, MKCL.


(Dr. Shailendra Deolankar)
I/c Registrar

Desktop/Circular of Engineering/Priya



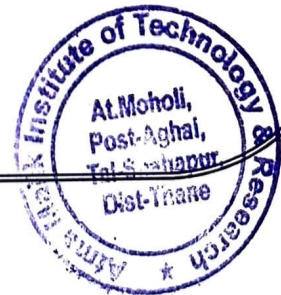
AC – 11 July, 2022
Item No. – 6.30 (R)

University of Mumbai



**Revised Syllabus for
B.E. (Electronics & Telecommunication Engineering)
(Sem. - VII to VIII)
(Choice Based Credit System)**

(With effect from the academic year 2022-23)



Program Structure for Final Year Electronics & Telecommunication Engineering

Semester VII & VIII
UNIVERSITY OF MUMBAI
(With Effect from 2022-2023)
Semester VII

Course Code	Course Name	Teaching Scheme (Contact Hours)			Credits Assigned			
		Theory	Pract.	Tut.	Theory	Pract.	Tut.	Total
ECC701	Microwave Engineering	3	--	--	3	--	--	3
ECC702	Mobile Communication System	3	--	--	3	--	--	3
ECCDLO701X	Department Optional Course-3	3	--	--	3	--	--	3
ECCDLO702X	Department Optional Course-4	3	--	--	3	--	--	3
ILO701X	Institute Level Optional Course-1	3	--	--	3	--	--	3
ECL701	Microwave Engineering Laboratory	--	2	--	--	1	--	1
ECL702	Mobile Communication System Laboratory	--	2	--	--	1	--	1
ECP701	Major Project-I	--	6 [#]	--	--	3	--	3
Total		15	10	--	15	5	--	20

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

Project Guide Load = ½ hour per week per project group

Course Code	Course Name	Examination Scheme							
		Theory					Term Work	Practical & Oral	Total
		Internal Assessment			End Sem. Exam	Exam Duration (in Hrs)			
Test 1	Test 2	Avg.							
ECC701	Microwave Engineering	20	20	20	80	3	--	--	100
ECC702	Mobile Communication System	20	20	20	80	3	--	--	100
ECCDLO701X	Department Level Optional Course-3	20	20	20	80	3	--	--	100
ECCDLO702X	Department Level Optional Course-4	20	20	20	80	3	--	--	100
ILO701X	Institute Level Optional Course-1	20	20	20	80	3	--	--	100
ECL701	Microwave Engineering Laboratory	--	--	--	--	--	25	25	50
ECL702	Mobile Communication System Laboratory	--	--	--	--	--	25	25	50
ECP701	Major Project-I	--	--	--	--	--	25	25	50
Total		--	--	100	400	--	75	75	650



Program Structure for Final Year Electronics & Telecommunication Engineering

Semester VII & VIII
UNIVERSITY OF MUMBAI
(With Effect from 2022-2023)
Semester VIII

Course Code	Course Name	Teaching Scheme (Contact Hours)			Credits Assigned			
		Theory	Pract.	Tut.	Theory	Pract.	Tut.	Total
ECC801	Optical Communication and Networks	3	--	--	3	--	--	3
ECCDLO801X	Department Level Optional Course-5	3	--	--	3	--	--	3
ECCDLO802X	Department Level Optional Course-6	3	--	--	3	--	--	3
ILO801X	Institute Level Optional Course-2	3	--	--	3	--	--	3
ECL801	Optical Communication and Networks Laboratory	--	2	--	--	1	--	1
ECP801	Major Project-II	--	12 [#]	--	--	6	--	6
Total		12	14	--	12	7	--	19

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

Project Guide Load = 01 hour per week per project group

Course Code	Course Name	Examination Scheme							
		Theory					Term Work	Practical & Oral	Total
		Internal Assessment			End Sem. Exam	Exam Duration (in Hrs)			
Test 1	Test 2	Avg.							
ECC801	Optical Communication and Networks	20	20	20	80	3	--	--	100
ECCDLO801X	Department Level Optional Course-5	20	20	20	80	3	--	--	100
ECCDLO802X	Department Level Optional Course-6	20	20	20	80	3	--	--	100
ILO801X	Institute Level Optional Course-2	20	20	20	80	3	--	--	100
ECL801	Optical Communication and Networks Laboratory	--	--	--	--	--	25	25	50
ECP801	Major Project-II	--	--	--	--	--	50	100	150
Total		--	--	80	320	--	75	125	600



Department Level Optional Course-3

Course Code	Course Name
ECCDLO 7011	Efficient Architectures for DSP Algorithms
ECCDLO 7012	Deep Learning
ECCDLO 7013	Cloud Computing and Security
ECCDLO 7014	Big Data Analytics
ECCDLO 7015	Software Defined Radio

Department Level Optional Course-4

Course Code	Course Name
ECCDLO 7021	Robotics
ECCDLO 7022	5G Technology
ECCDLO 7023	Internet Communication Engineering
ECCDLO 7024	Advanced Digital Signal Processing
ECCDLO 7025	Quantum Computing

Institute Level Optional Course-1

Course Code	Course Name
ILO 7011	Product Lifecycle Management
ILO 7012	Reliability Engineering
ILO 7013	Management Information System
ILO 7014	Design of Experiments
ILO 7015	Operation Research
ILO 7016	Cyber Security and Laws
ILO 7017	Disaster Management and Mitigation Measures
ILO 7018	Energy Audit and Management
ILO 7019	Development Engineering



Department Level Optional Course-5

Course Code	Course Name
ECCDLO 8011	System On Chip Design
ECCDLO 8012	Natural Language Processing
ECCDLO 8013	Wireless Networks
ECCDLO 8014	Web Design
ECCDLO 8015	RF Design

Department Level Optional Course-6

Course Code	Course Name
ECCDLO 8021	Autonomous Vehicle
ECCDLO 8022	Satellite and Nano Satellite Communication
ECCDLO 8023	Network Management in Telecommunication
ECCDLO 8024	Microstrip Antenna
ECCDLO 8025	Augmented Reality and Virtual Reality

Institute Level Optional Course-1

Course Code	Course Name
ILO 8011	Project Management
ILO 8012	Finance Management
ILO 8013	Entrepreneurship Development and Management
ILO 8014	Human Resource Management
ILO 8015	Professional Ethics and CSR
ILO 8016	Research Methodology
ILO 8017	IPR and Patenting
ILO 8018	Digital Business Management
ILO 8019	Environmental Management

